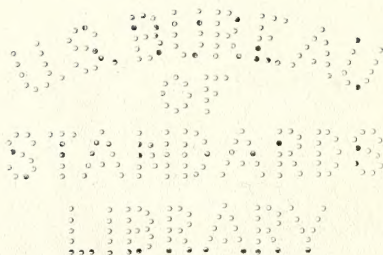


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IONOSPHERIC DATA

ISSUED
SEPTEMBER, 1944



PREPARED BY INTERSERVICE RADIO PROPAGATION LABORATORY
National Bureau of Standards
Washington, D.C.

National Bureau of Standards

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IONOSPHERIC DATA

This IRPL-F-series report, issued monthly, serves as one of the three current supplements to IRPL Radio Propagation Handbook, Part 1, (War Dept. TM11-499, Navy Dept. DNC-13-1). The supplements of the IRPL-D series, "Basic Radio Propagation Predictions Three Months in Advance", issued earlier in the month, include basic prediction charts, auxiliary charts and nomograms, as well as examples illustrative of their use. The supplements of the IRPL-E series, "Radio Propagation Predictions One Month in Advance", include revisions two months later of certain of the predictions given in the D series, and nomograms giving predictions in a form for rapid operational use. Before this month, most of the material was combined in a single report, "Radio Propagation Conditions".

NOTE

All three supplements of this month's (September) issue are being furnished to the regular recipients of the discontinued single supplement, "Radio Propagation Conditions." Hereafter, only the D-series supplement will be furnished unless requests are received for the others. Requests should be sent in if future issues of the E and F supplements are desired.

This note does not apply to U.S. Army distribution of TB11-499-1 and U.S. Navy distribution of DNC-13-1(8).

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TERMINOLOGY

Note.- The following symbols are used, conforming to the recommendations of the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May 1944.

- $f^{\circ}F2$ - ordinary-wave critical frequency for the F2 layer. The term night F layer will no longer be used. The term F2 layer is now used for the night F layer as well as the daytime F2 layer.
- $f^{\circ}F1$ - ordinary-wave critical frequency of the F1 layer.
- $f^{\circ}E$ - ordinary-wave critical frequency of the E layer.
- $h'F2$ - minimum virtual height of the F2 layer.
- $h'F1$ - minimum virtual height of the F1 layer.
- $h'E$ - minimum virtual height of the E layer.
- fEs - highest frequency of Es reflections.
- M - maximum usable frequency factor, to be followed by the distance in km.
Example: M3500 represents 3500-km maximum usable frequency factor.
- muf - maximum usable frequency.
- [] - interpolated value.
- () - doubtful value.
- A - characteristic not measurable because of blanketing by sporadic E.
- B - characteristic not measurable because of loss of trace due to absorption.
- C - characteristic not measurable because of equipment failure or interference.
- D - characteristic higher than upper limit of recorder.
- E - characteristic less than lower limit of recorder.

- F - spread echoes.
- G - $f^oF2 \leq f^oF1$.
- H - stratification observed within region.
- J - ordinary-wave critical frequency deduced from measured extraordinary-wave critical frequency.
- K - ionosphere storm in progress.

MONTHLY AVERAGES AND MEDIAN VALUES OF IONOSPHERIC DATA.

The tables and graphs of ionospheric data presented here are assembled by the Interservice Radio Propagation Laboratory for analysis and correlation principally incidental to IRPL predictions of radio propagation conditions. These data are furnished by the following:

Carnegie Institution of Washington (Department of Terrestrial Magnetism).

Baffin Is., Canada

Fairbanks, Alaska (University of Alaska, College, Alaska)

Reykjavik, Iceland

Maui, Hawaii

Trinidad, Brit. West Indies

Huancayo, Peru

Watheroo, W. Australia

British National Physical Laboratory, and Inter-Services Ionosphere Bureau.

Radio Research Station, Slough, England

Great Baddow, England

Burghead, Scotland

Delhi, India

Australian Council for Scientific and Industrial Research.

Radio Research Board, Australia

Brisbane, Q., Australia

Mt. Stromlo, Canberra, NSW, Australia.

Canadian Department of National Defence, Naval Service.

Churchill, Canada

Ottawa, Canada

New Zealand Radio Research Committee.

Kermadec Is.

Christchurch (Canterbury University College Observatory)

Campbell Is.

National Bureau of Standards, Washington, D.C.

Stanford University, (San Francisco), California.

Louisiana State University, Baton Rouge, Louisiana.

University of Puerto Rico, San Juan, P.R.

For their timely value, some of the tables presented are provisional data received by telephone or telegraph in which there may be small or infrequent errors. When final values are available such errors will be corrected in later issues of this report.

The final values presented, both in tabular and graphical form, although correct for the quantities stated, may sometimes lead to an erroneous conception of typical values for the quantity under consideration. Even when standard scaling practice is used (this being by no means universal as yet), intrinsically misleading results may arise from the monthly average being determined from only a few observations during the month. Two frequent types of such error, both particularly typical of stations in far northern or far southern latitudes are:

(a) Erroneously high values of monthly average critical frequencies caused by the frequent absence of record for cases where the critical frequency is below the lower frequency limit of the recorder. A median, rather than a mean, value of the critical frequency is more significant in such cases, the median being that for all times at which observations were made, the cases of absent records being counted as less than the lower frequency limit of the apparatus.

(b) Erroneously high values of monthly average F2-layer critical frequencies caused by the frequent occurrence of cases where the F1-layer critical frequency exceeds that of the F2-layer. This is characteristic of summer months during sunspot-cycle minimum, particularly in northern latitudes. In this case, also, median values are more significant than mean values, the median being that for all cases where observations are made, those cases where missing values result because of higher f^oF1 being counted as less than the f^oF1 . When, as is often the case, no great discrepancy is likely to exist between f^oF1 and f^oF2 , a typical value of f^oF2 may be obtained by taking the monthly average of observed f^oF2 together with observed f^oF1 for the cases where no f^oF2 could be measured.

The discrepancy between predicted and observed values of monthly average critical frequencies, particularly for far northern stations, is frequently because of the above reasons, the predictions being intended to represent typical values for the location under consideration.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR

These data, observed at Washington, D.C., follow the scaling practices recommended by the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May 1944. (Cf. IRPL-C61, pp.36-39).

In order to obtain typical values of monthly average f^oF2 , for cases where the f^oF2 falls below the f^oF1 , values of f^oF1 are used in taking the average, such cases being indicated in Table 30 by the symbol G, and a "less than" sign before the f^oF1 value inserted.

Because of the high variability of observed fEs, mean values are of little practical significance and are not given here.

Mean values of other quantities are given for all days of the month as well as for quiet days only. The criteria for selecting periods of ionospheric storminess, whose data are deleted in obtaining the mean values for quiet days only, are presented in IRPL-R5, "Criteria for Ionospheric Storminess", available to authorized persons upon request.

There is a notable increase in median values of Es reported for Fairbanks, Alaska, over those observed in June, previously presented in the August issue of "Ionospheric Data". This is because of a change in record scaling practice; values of Es reported previous to 1 July 1944 were those for blanketing Es only. Beginning 1 July, following the recommendations of the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May 1944, values reported are those for the highest frequency at which Es echoes are observed.

It may be noted that a logarithmic grid is used for the graphical presentation of critical frequencies, fEs and F2-M3000. This is for convenience in obtaining muf by means of graphical multiplication (i.e., since the distances above 1 on such a grid are proportional to the logarithm of the quantities represented, two such distances may be added in order to obtain the product, on the same scale, of the two quantities).

IONOSPHERIC DISTURBANCES

Table 39 presents ionospheric character figures and principal storms observed at Washington, D.C., during August 1944, as determined by the criteria presented in IRPL-R5, cited above, together with American magnetic K-figures which are usually covariant with them.

SPORADIC-E TRANSMISSION

Table 40 presents the first comparison which has been made between percentages of time of occurrence of transmission by sporadic-E reflection as observed under practical transmission conditions and those derived for the frequency under consideration by statistical analysis of vertical-incidence data. Observations were made by the Federal Communications Commission Engineering Department of percentages of total time of transmission by means of Es reflections on 44.3 Mc (WGTR, at Paxton, Mass., Eo at one mile = 2460 uv/m) as received above 25 uv/m at Allegan, Mich., Grand Island, Neb., and Atlanta, Ga. These are given in comparison with equivalent percentages of the time derived from vertical-incidence data observed at Washington, D.C., during the same months. A maximum usable frequency factor of 5 was taken and the vertical-incidence probability of Es-reflection at $44.3/5 = 8.86$ Mc determined.

Despite the considerable variability exhibited by Es data, as may be seen by inspection of Table 35, and despite the fact that the midpoints of the transmission paths under consideration are not exactly at the location of Washington, D.C., fairly good agreement may be noted between these observations.

Longitude variations in Es are fairly pronounced, greater percentages of Es in temperate latitudes being noted with proximity to the auroral zones. It may be seen from Table 40 that the best agreement with Washington, D.C., vertical-incidence data occurs for the observations made at Atlanta, Ga., where the midpoint of the transmission path is closest to Washington. Similar seasonal variations exist in all cases, with maxima during both winter and summer solstices, the latter being the greater, and minima during equinoctial seasons.

ERRATA

Values of F2-M3000 previously reported from Baton Rouge, Louisiana, for June and July 1944, are generally too low because of error in scaling the records. Correct values will be given in this report, as soon as they are available, for June. The July values are correctly given in this report in the graph, Fig. 13.

Table 1

Baffin Is., Canada (70.5°N, 86.6°W) August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00	239	3.41						3.3
01	247	3.10						3.4
02	251	3.02						3.4
03	252	3.15	260	2.60				3.3
04	253	3.39	228	2.92	155	2.27		3.2
05	280	3.66	222	3.13	147	2.36		3.2
06	323	3.63	218	3.26	134	2.44		2.8
07	375	4.05	224	3.41	121	2.49		3.1
08	378	4.50	218	3.64	118	2.62		2.9
09	351	4.49	220	3.73	116	2.69		3.0
10	351	4.65	226	3.83	117	2.62		3.0
11	406	4.40	221	3.78	117	2.65		3.0
12	374	4.64	213	3.79	116	2.68		3.0
13	407	4.44	212	3.74	115	2.68		2.9
14	390	4.40	209	3.72	118	2.69		3.0
15	395	4.35	209	3.63	122	2.60		3.1
16	380	4.43	214	3.50	130	2.42		3.1
17	324	4.34	215	3.35	134	2.40		3.2
18	268	4.23	212	3.16	140	2.26		3.2
19	242	3.99	207	2.98				3.2
20	239	3.80						3.2
21	241	3.78						3.3
22	241	3.67						3.3
23	242	3.49						3.3

Time: 75°W.

Length of time sweep: 2 Mc to 16 Mc in one minute supplemented by manual apparatus with low frequency limit 1.6 Mc.

Table 3

At Reykjavik, Iceland (64.1°N, 21.7°W) August, 1944.

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00								3.0
01	305	2.90						3.0
02	260	3.30						3.3
03	265	2.85						3.3
04	244	3.16	260	2.90	115	2.30		3.4
05	217	3.55			110	2.60		3.4
06	252	3.82	212	3.52	110	2.90		3.3
07	281	4.11	204	3.72	110	2.80		3.1
08	314	4.34	210	3.91	110	2.67		3.1
09	344	4.41	206	3.97	110	2.80		3.2
10	326	4.47	209	4.08	110	2.80		3.2
11	353	4.63	199	4.09	110	2.80		3.1
12	350	4.61	205	4.06	110	2.90		3.0
13	344	4.64	214	4.00	110	2.89		3.0
14	358	4.71	214	3.92	110	2.67		3.0
15	328	4.73	205	3.74	112	2.61		3.0
16	325	4.74	214	3.63	111	2.50		3.1
17	288	4.46	227					3.2
18	259	4.29						3.2
19	268	4.37						3.1
20	268	4.03						2.8
21	330	4.20						
22								
23								

Time: 15°W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 2

Fairbanks, Alaska (64.9°N, 147.8°W) August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00	294	2.53						3.0
01	318	2.56			103	1.50		2.9
02	292	2.76						3.0
03	316	2.87			103	1.30		3.0
04	317	3.22	246	2.90	103	1.74		2.9
05	380	3.64	236	3.10	103	2.00		2.8
06	397	3.82	226	3.29	103	2.06		2.8
07	425	3.96	219	3.46	103	2.38		2.7
08	477	4.02	211	3.60	103	2.55		2.7
09	460	4.20	208	3.73	103	2.70		2.7
10	446	4.36	206	3.82	103	2.80		2.7
11	432	4.43	205	3.90	103	2.84		2.7
12	456	4.40	210	3.90	103	2.81		2.8
13	444	4.37	209	3.90	103	2.71		2.8
14	423	4.54	213	3.79	103	2.59		2.8
15	391	4.28	216	3.69	103	2.50		3.0
16	380	4.28	217	3.45	103	2.16		3.1
17	325	4.23	223	3.20	103	1.82		3.1
18	280	4.09	228	3.10	103	1.69		3.1
19	262	3.83	234		103	1.68		3.1
20	263	3.62			103	1.77		3.1
21	270	3.27			103	1.06		3.1
22	269	2.85			103	1.20		3.0
23	293	2.53			103			

Time: 15°W.

Length of time sweep: 16 Mc to 0.5 Mc in 15 minutes.

Table 4

		Burghead, Scotland (57.7°N, 3.6°W)	Delhi, India (28.6°N, 77.2°E)
Time	f°F2	f°F2	f°F2
00	3.6		3.4
01	3.3		3.2
02	3.0		2.9
03	2.9		2.9
04	2.9		3.0
05	3.2		4.2
06	3.5		5.3
07	3.9		4.2
08	4.2		5.9
09	4.3		6.0
10	4.6		6.5
11	4.6		7.5
12	4.6		9.4
13	4.7		9.5
14	4.6		10.0
15	4.8		9.8
16	4.6		9.3
17	4.8		8.8
18	4.8		7.4
19	4.9		6.3
20	4.9		5.2
21	4.6		4.4
22	4.4		4.0
23	4.2		3.7

Time: 0°

Time: 75°E

Table 5

At Maui, Hawaii (20.8°N, 156.5°W) August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	284	4.76						3.0
01	276	4.80						3.1
02	251	4.77						3.3
03	255	3.94						3.3
04	256	3.41						3.3
05	281	3.22						3.2
06	253	3.41						3.3
07	242	5.23	216	3.53				3.4
08	268	5.75	214	4.10	118	2.77		3.4
09	363	6.60	202	4.48	113	2.99		3.0
10	410	6.12	202	4.52	110	3.17		2.7
11	393	7.10	197	4.54	115	3.34		2.7
12	375	7.99	206	4.55	111	3.38		2.8
13	354	8.85	205	4.50	112	3.44		2.9
14	332	9.36	211	4.47	112	3.35		3.0
15	320	9.49	211	4.39	107	3.22		3.1
16	297	9.73	209	4.27	109	3.01		3.1
17	270	9.66	220	4.03	111	2.61		3.2
18	242	9.23	219	3.37				3.4
19	224	7.87						3.4
20	229	6.33						3.3
21	253	5.27						3.1
22	281	4.97						2.9
23	286	4.30						2.9

Time: 1500W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 6

At Trinidad, British West Indies (10.6°N, 61.3°W) August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	293	4.52						2.9
01	280	4.62						3.0
02	276	4.46						3.1
03	265	3.86						3.1
04	263	3.70						3.2
05	268	3.50						3.2
06	245	3.89						3.3
07	243	5.00	218	3.55				3.3
08	309	5.27	228	4.15	115	2.36		3.1
09	365	5.52	229	4.42	113	3.21		3.0
10	419	6.91	223	4.54	112	3.39		2.8
11	391	6.80	222	4.56	111	3.49		2.8
12	375	7.86	232	4.60	113	3.57		2.8
13	350	8.75	230	4.56	114	3.51		2.8
14	332	9.18	224	4.43	110	3.43		3.0
15	319	9.50	231	4.32	112	3.25		3.0
16	303	9.49	225	4.22	112	2.93		3.0
17	282	9.14	239	3.84	115	2.60		3.1
18	256	8.73	240	2.85				3.2
19	243	7.65						3.2
20	248	5.91						3.0
21	274	5.45						3.0
22	288	4.82						2.9
23	297	4.66						2.9

Time: 600W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 7

At Buenaño, Peru (12.0°S, 75.3°W) August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	235	4.84						3.3
01	234	4.53						3.3
02	241	3.93						3.2
03	242	3.42						3.4
04	249	2.80						3.3
05	263	2.29						3.2
06	254	3.08				1.23		3.1
07	231	5.45				2.25		3.2
08	311	6.43	216	4.09		2.81		3.0
09	360	6.70	206	4.25		3.11		2.7
10	390	6.44	202	4.34		3.40		2.6
11	420	6.25	198	4.39				2.5
12	440	6.19	198	4.41				2.4
13	411	6.27	195	4.37				2.5
14	402	6.39	197	4.31				2.5
15	372	6.50	196	4.19				2.6
16	316	6.86	204	4.04				2.8
17	235	6.71				2.17		2.7
18	258	6.64				1.09		2.9
19	286	6.15						2.9
20	279	5.81						2.9
21	237	5.68						3.1
22	237	5.81						3.2
23	230	5.40						3.3

Time: 750W.

Length of time sweep: 16 Mc to 0.5 Mc in 15 minutes.

Table 8

At Kermadec Is. (29.2°S, 177.9°W) August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	276	3.52						
01								
02								
03	256	3.23						
04								
05	273	2.73						
06	268	2.76						
07	238	4.49	288	3.11				
08	255	5.11	234	3.49	118	2.23		
09	286	5.20	241	3.99	115	2.71		
10	298	5.53	233	4.17	114	2.86		
11	291	5.76	222	4.24	113	3.04		
12	297	5.66	222	4.29	114	3.09		
13	287	5.97	241	4.25	113	3.15		
14	287	6.79	235	4.14	114	3.06		
15	271	5.35	236	3.95	117	2.89		
16	266	5.06	233	3.49	118	2.50		
17	252	4.89			116	2.06		
18	241	4.43						
19	244	4.14						
20	270	3.71						
21	277	3.61						
22								
23								

Time: Local.

Length of time sweep: 1.8 Mc to 12.8 Mc. Manual operation.

Table 9

At Watheroo, Western Australia (30.3°S, 115.9°E)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00	243	3.33					3.1
01	239	3.40					3.1
02	241	3.41					3.1
03	234	3.57					3.1
04	223	3.44					3.3
05	223	3.13					3.4
06	230	2.87					3.2
07	232	4.06				1.81	3.5
08	249	4.90				2.30	3.4
09	276	5.27				2.61	3.3
10	302	5.48	221	3.88		2.81	3.3
11	306	5.55	210	4.19		2.94	3.3
12	297	5.94	213	4.19		3.00	3.2
13	301	5.87	210	4.18		2.98	3.2
14	292	5.84	212	4.12		2.89	3.3
15	271	5.72	209	3.88		2.74	3.3
16	258	5.43	212	3.50		2.44	3.4
17	237	5.14				1.92	3.4
18	213	4.47					3.4
19	224	3.47					3.2
20	238	3.11					3.1
21	249	3.26					3.0
22	246	3.37					3.1
23	247	3.34					3.0

Time: 1200E.

Length of time sweep: 16 Mc to 0.5 Mc in 15 minutes.

Table 10

At Christchurch, N.Z. (43.5°S, 172.6°E)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00		2.77					
01		2.83					
02		2.64					
03		2.46					
04		2.17					
05		1.98					
06	234	3.49					
07	227	4.22					
08	250	4.53					
09	274	4.82	113	3.55	206	2.72	
10	284	4.94	108	3.89	206	2.92	
11	276	5.29	108	3.90	207	2.93	
12	274	5.15	104	3.84	204	2.79	
13	264	5.20	106	3.75	200	2.75	
14	248	5.12	116	3.64	205	2.63	
15	233	4.90		3.06	202		
16	223	4.56					
17	241	3.89					
18	266	3.42					
19	287	3.17					
20	272	2.99					
21	263	2.78					
22		2.72					
23							

Time:

Length of time sweep: 2.5 Mc to 12 Mc in two minutes.

Table 11

At Campbell Island (52.0°S, 169.0°E)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00							
01							
02							
03							
04							
05							
06							
07	274	3.18					
08							
09	273	4.27	288	3.16			
10							
11	291	4.43	236	3.54			
12	296	4.61	245	3.65			
13	306	4.62	242	3.51			
14							
15	287	4.65	245	3.11			
16							
17	274	4.37					
18							
19	313	3.20					
20	350	3.10					
21							
22							
23							

Time: Local

Length of time sweep: 1 Mc to 12 Mc. Manual operation.

Table 12

At Charokhill, Canada (58.8°N, 94.2°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00	268	4.3				7.2	3.0
01	258	4.6	253			6.9	2.9
02	301	4.2	255			4.9	3.1
03	284	4.0	270			4.7	3.0
04	297	4.0	240		113	5.1	2.9
05	266	4.0	251			3.8	3.0
06	292	4.3	252			3.7	3.2
07	394	4.1	231	3.9	101	3.3	2.9
08	443	4.3	234	3.9	97	3.6	2.8
09	471	4.4	214	4.0	100	3.2	2.7
10	427	4.6	215	4.0	98	3.2	2.8
11	429	4.7	209	4.1	98	3.3	2.8
12	408	4.8	214	4.1	99	3.3	2.8
13	416	4.8	211	4.1	100	3.1	2.9
14	411	4.8	213	4.1	101	3.1	2.8
15	405	4.9	218	4.0	101	3.0	2.8
16	366	5.1	219	4.0	103	2.9	2.9
17	327	5.1	240	3.8	107	3.0	3.1
18	318	5.1	252	3.6	110	3.2	3.0
19	295	4.9	246	3.3	114	3.0	3.0
20	293	4.6	270		115	4.6	3.1
21	336	4.0			107	5.2	2.9
22	273	4.5			107	9.9	3.1
23	292	4.4				6.6	3.0

Time: 900W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 13

At Ottawa, Canada (45.5°N, 75.8°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	346	2.7					**	2.8
01	375	2.6					**	2.7
02	376	2.6					2.7	2.7
03	387	2.7					3.0	2.7
04	370	3.0	273	2.9	135		3.2	2.8
05	333	3.2	250	3.1	142	2.6	**	2.9
06	325	3.9	236	3.4	138	2.6	3.0	3.1
07	365	4.3	224	3.7	132	2.7	**	3.0
08	360	4.7	220	4.0	126	3.0	4.4	3.0
09	375	4.9	218	4.1	123	3.2	4.6	3.0
10	394	5.0	209	4.2	123	3.2	4.3	3.0
11	385	5.1	204	4.3	124	3.2	4.6	2.9
12	400	5.0	205	4.3	124	3.3	4.3	2.9
13	410	5.0	207	4.3	124	3.3	**	2.8
14	402	5.0	215	4.2	124	3.2	**	2.9
15	390	5.0	221	4.1	125	3.1	**	2.9
16	353	5.0	229	3.9	127	2.9	**	2.9
17	324	5.0	232	3.5	139	2.6	**	3.0
18	284	5.2	250	3.0	138	2.4	2.2	3.0
19	261	5.2	250		137		**	3.0
20	260	4.7	250				**	3.0
21	275	3.9					**	2.8
22	283	3.2					**	2.8
23	326	2.8					**	2.8

Time: 75°W.

Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.

Table 14

At Washington, D.C. (39.0°N, 77.5°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	273	2.78					2.5	3.1
01	276	2.80					2.5	3.1
02	273	2.80					2.5	3.0
03	273	2.07					2.5	3.0
04	275	1.95					2.6	3.0
05	272	2.19					2.6	3.1
06	241	3.56			124	1.85	2.8	3.3
07	341	4.23	227	3.62	120	2.41	3.0	3.1
08	366	4.76	219	3.92	118	2.78	3.9	3.0
09	367	5.06	214	4.13	116	3.00	4.1	3.0
10	397	5.10	206	4.25	116	3.16	3.6	3.0
11	402	5.02	203	4.32	115	3.28	4.2	2.5
12	434	4.99	200	4.34	117	3.32	3.9	2.8
13	423	5.04	211	4.32	116	3.29	3.7	2.8
14	399	5.03	217	4.27	115	3.22	3.9	2.9
15	400	5.04	225	4.16	117	3.11	4.0	2.9
16	372	5.05	229	4.01	118	2.92	4.0	2.8
17	334	5.06	230	3.73	118	2.57	4.0	3.0
18	285	5.12	234	3.30	119	1.99	3.4	3.1
19	244	5.34					3.7	3.2
20	246	5.16					3.4	3.2
21	254	4.32					3.2	3.1
22	267	3.62					2.7	3.1
23	271	3.23					2.5	3.0

Time: 75°W.

Length of time sweep: 0.8 Mc to 14.0 Mc in two minutes.

Table 15

At San Francisco, California (37.4°N, 122.2°W)

August, 1944.

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M5000
00	273	3.27					2.7	3.0
01	277	3.21					2.4	2.9
02	281	3.14					1.9	2.9
03	275	3.09					1.9	2.9
04	271	2.96					2.3	2.9
05	273	2.92					2.4	3.0
06	277	3.62	244	3.15	114	1.96	2.9	3.1
07	351	4.55	217	3.65	110	2.43	3.3	3.0
08	350	5.05	210	3.93	109	2.76	3.5	3.0
09	368	5.26	204	4.08	108	3.04	3.4	2.9
10	365	5.44	205	4.18	106	3.15	3.6	2.9
11	390	5.59	198	4.26	106	3.20	**	2.9
12	333	5.67	199	4.26	107	3.24	**	2.7
13	365	5.65	206	4.24	106	3.23	**	3.0
14	356	5.58	220	4.22	107	3.22	**	2.9
15	343	5.52	226	4.13	104	3.10	3.2	3.0
16	339	5.26	221	3.97	106	2.85	3.4	3.0
17	316	5.08	229	3.64	108	2.43	3.4	3.0
18	261	4.86	236	3.18	108	1.94	3.3	3.1
19	244	4.84					2.6	3.1
20	237	4.71					2.5	3.1
21	250	4.13					2.9	3.0
22	256	3.69					2.9	3.0
23	261	3.44					2.7	3.0

Time: Local.

Length of time sweep: 0.8 Mc to 12 Mc in six minutes. Record centered

on the hour.

At Baton Rouge, Louisiana (30.5°N, 91.2°W)

August, 1944

Note: NR 1300 August 1 through 1200 August 21.

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	302	3.46					**	3.0
01	303	3.31					**	3.0
02	300	3.24					**	3.0
03	298	3.16					**	3.1
04	284	3.00					**	3.1
05	282	2.94					**	3.2
06	272	4.00					**	3.2
07	338	4.98	231	3.60	130	2.18	**	3.1
08	324	5.33	222	4.12	120	2.70	**	3.2
09	357	5.31	216	4.36	120	3.02	**	3.1
10	400	5.49	223	4.47	120	3.12	**	3.0
11	410	5.61	220	4.52	120	3.16	**	2.9
12	381	5.93	220	4.56	120	3.18	**	2.9
13	376	5.89	233	4.54	120	3.20	**	3.0
14	353	6.22	233	4.50	120	3.20	**	3.0
15	351	6.36	236	4.42	120	3.08	**	3.0
16	330	6.41	240	4.26	120	2.80	**	3.0
17	300	6.47	238	3.76	123	2.35	**	3.1
18	277	6.59	246	2.94	130	2.00	**	3.2
19	235	6.35					**	3.2
20	286	5.50					**	3.2
21	259	4.34					**	3.1
22	281	3.75					**	3.0
23	291	3.71					**	2.7

Time: 90°W.

Length of time sweep: 1.9 Mc to 9.8 Mc in 3.5 minutes. Record centered on the hour.

Table 17

At San Juan, Puerto Rico (18.4°N, 66.1°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.92					**	2.8
01		3.86					**	2.8
02		3.88					**	3.0
03		3.83					**	3.1
04		3.15					**	3.0
05		3.07					**	3.2
06		3.95					**	3.2
07	289	6.02		3.44		3.00	**	3.3
08	364	4.99	244	4.04		3.12	**	3.0
09	414	5.13	218	4.30		3.26	**	2.8
10	446	5.38	228	4.37		3.57	**	2.7
11	436	5.97	229	4.41		3.57	**	2.7
12	413	6.62	245	4.39		3.36	**	2.7
13	374	7.41	242	4.41		3.41	**	2.7
14	364	7.90	241	4.36		3.34	**	2.8
15	354	7.64	232	4.20		3.22	**	2.8
16	335	7.90	231	4.03		3.04	**	2.9
17	312	7.72	255	3.65			**	3.0
18	280	7.30					**	3.2
19	260	6.24					**	3.3
20		5.33					**	3.1
21		4.97					**	3.0
22		4.11					**	2.9
23		4.05					**	2.8

Time: Local

Length of time sweep: 3 Mc to 12 Mc in 14 minutes. Record centered on the hour.

Table 19

At Churchill, Canada (58.8°N, 94.2°W)

July, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	268	4.1					8.4	3.2
01	266	4.1					6.2	3.1
02	271	4.0					6.3	3.1
03	270	4.2					4.8	3.1
04	274	3.9	293		117	2.8	4.2	3.2
05	266	4.1	218	3.3	121	2.8	3.9	3.3
06	292	4.2	233	3.7	111	3.1	3.8	3.3
07	438	4.2	236	3.8	111	2.9	3.9	2.8
08	432	4.2	223	3.9	106	3.1	**	2.8
09	420	4.4	211	4.0	106	3.0	**	2.8
10	415	4.5	218	4.1	107	3.1	**	2.9
11	423	4.6	206	4.1	106	3.0	**	2.8
12	407	4.5	206	4.1	105	3.1	**	2.9
13	427	4.6	204	4.1	107	3.0	**	2.8
14	432	4.6	209	4.1	106	3.0	**	2.8
15	398	4.8	214	4.0	106	3.0	**	2.9
16	383	4.9	219	4.0	107	3.0	**	2.9
17	351	5.0	233	3.9	108	3.0	**	3.0
18	333	5.0	249	3.7	116	3.1	**	3.0
19	315	4.7	255	3.5	119	2.9	**	3.1
20	306	4.6	265		118	3.1	4.0	3.0
21	290	4.2			124	2.9	6.0	3.1
22	282	4.4					10.2	3.0
23	278	4.4					10.5	3.1

Time: 90°W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 18

At Reykjavik, Iceland (64.1°N, 21.7°W)

July, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	287	3.73					3.3	3.0
01	280	3.70					3.6	3.2
02	250	3.30					3.3	3.3
03	280	3.05					3.4	3.0
04	258	3.35					3.2	3.2
05	282	3.50	195	3.15			**	3.2
06	278	3.77	225	3.45			**	3.3
07	306	3.88	213	3.68	112	2.60	**	3.3
08	334	4.06	212	3.76	114	2.58	**	3.1
09	388	4.08	214	3.77	112	2.75	**	3.4
10	322	4.34	208	3.94	111	2.78	**	3.3
11	327	4.33	211	3.98	111	2.80	**	3.3
12	352	4.29	217	4.01	112	2.95	**	3.1
13	373	4.37	216	4.03	111	2.97	**	3.0
14	394	4.37	216	3.99	111	2.93	**	3.0
15	404	4.43	223	3.94	111	2.88	**	3.0
16	390	4.42	222	3.88	112	2.79	**	2.9
17	366	4.48	227	3.53	112	2.72	**	3.0
18	320	4.37	227	3.66	113	2.62	2.3	3.0
19	330	4.29	225	3.45	110	3.50	3.1	3.0
20	281	4.27	238	3.40	110	3.05	3.2	3.1
21	261	4.30					3.6	3.0
22	272	3.74					3.0	3.3
23	265	3.75					3.3	3.2

Time: 15°W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 20

At Great Hadden, England
(51.7°N, 0.5°E)Burghhead, Scotland
(57.9°N, 3.5°W)

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00	3.9						3.0
01	3.8						3.0
02	3.3						3.0
03	3.1						3.0
04	3.3						3.0
05	3.8	3.0	1.8				3.0
06	4.1	3.4	2.2				3.0
07	4.6	3.7	2.5				3.0
08	4.7	3.9	2.7				3.1
09	4.9	4.1	2.9				3.1
10	4.8	4.1	3.0				3.0
11	4.9	4.2	3.0				3.1
12	4.8	4.2	3.1				3.0
13	4.7	4.2	3.1				2.9
14	4.7	4.1	3.1				2.8
15	4.7	4.0	3.0				2.9
16	4.6	3.9	2.8				2.9
17	4.7	3.7	2.5				2.9
18	4.9	3.5	2.2				3.0
19	5.3	3.0	1.8				3.1
20	5.9						3.1
21	5.7						3.1
22	5.1						3.1
23	4.5						3.1

Time: 0°

Slough, England (51.5°N, 0.6°W)

Noon h'F2 = 158. Noon f°F2 = 4.84

Table 21

At Ottawa, Canada (45.5°N, 75.3°W)

July, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	316	2.9					3.0	3.1
01	336	2.3					3.1	3.0
02	356	2.7					3.5	3.0
03	370	2.3					3.6	3.2
04	350	3.4	265	3.1	128	2.4	3.5	3.0
05	342	3.3	239	3.2	126	2.5	3.5	3.1
06	342	3.9	222	3.5	127	2.6	4.0	3.2
07	360	4.3	215	3.3	122	2.6	4.2	3.2
08	357	4.6	209	4.0	115	2.8	4.7	3.3
09	381	4.7	206	4.1	114	2.9	4.8	3.2
10	360	4.8	202	4.2	114	3.0	5.1	3.3
11	381	4.3	196	4.3	112	3.1	4.8	3.1
12	398	4.8	199	4.3	113	3.1	4.9	3.1
13	428	4.8	203	4.3	112	3.1	4.8	3.0
14	403	4.7	211	4.2	114	3.1	4.6	3.0
15	392	4.7	216	4.1	116	3.0	4.4	3.1
16	363	4.8	219	4.0	117	2.9	4.3	3.1
17	340	4.8	224	3.8	121	2.7	4.3	3.2
18	294	4.9	231	3.4	130	2.5	4.4	3.2
19	268	5.1	242	2.9	122	2.4	3.8	3.3
20	244	5.0					3.2	3.2
21	250	4.5					4.0	3.2
22	264	3.8					3.1	3.1
23	292	3.1					3.0	3.1

Time: 75°W.

Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.

Table 22

At Brisbane, Australia (27.50S, 153.0°E)

July, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	281	3.35						3.2
01	288	3.46						3.2
02	282	3.52						3.2
03	267	3.54						3.3
04	245	3.38						3.5
05		2.70						3.4
06		4.12						3.7
07	235	4.65						3.5
08	255	4.36						3.5
09	280	4.36	243	3.79	243	2.48		3.5
10	303	5.18	244	4.01	121	2.73		3.5
11	305	5.22	236	4.14	119	2.63		3.4
12	290	5.37	230	4.12	119	2.69		3.4
13	293	5.20	220	4.06	122	2.64		3.5
14	297	5.12	217	3.92	126	2.71		3.5
15	280	5.32	225	3.66		2.52		3.5
16	255	5.02						3.5
17	246	4.60						3.6
18	250	3.77						3.4
19	266	3.57						3.2
20	284	3.59						3.1
21	289	3.50						3.1
22	287	3.48						3.2
23	279	3.37						3.2

Time: 150°E.

Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes thirty seconds.

Table 23

Kermadec Is. (29.2°S, 177.9°W)

July, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
2345	268	3.26						
0100								
0200								
0245	257	3.51						
0400								
0500	227	3.07						
0600	247	2.99						
0700	228	3.78						
0800	254	4.45	217	3.02	110	1.83		
0900	265	4.74	231	3.69	115	2.04		
1000	296	5.00	243	4.01	114	2.44		
1100	283	5.17	237	4.03	112	2.84		
1200	280	5.09	229	4.04	112	2.99		
1300	279	5.19	226	4.01	111	2.97		
1400	271	5.26	224	3.89	110	2.88		
1500	264	5.04	216	3.68	111	2.63		
1600	257	4.64	224	3.16	111	2.26		
1700	236	4.70						
1800	227	4.06						
1945	232	3.72						
2000	243	3.51						
2045	257	3.25						
2200								
2300								

Time: local

Length of time sweep: 1.8 Mc to 12.8 Mc. Manual operation.

Table 24

Mt. Stromlo, N.S.W., Australia (35.3°S, 149.0°E)

July, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	266	3.26						3.1
01	274	3.56						3.1
02	263	3.51						3.1
03	262	3.48						3.2
04	253	3.49						3.2
05	240	3.32						3.3
06	241	2.74						3.3
07	244	3.16						3.3
08	240	4.28						3.4
09	253	4.69	219	3.27	116	2.56		3.4
10	274	4.86	220	3.67	112	2.64		3.4
11	284	5.13	224	3.97	110	2.65		3.4
12	285	5.06	212	4.00	110	2.96		3.4
13	293	5.26	210	3.96	110	2.86		3.3
14	273	5.34	217	3.67	109	2.73		3.4
15	257	5.16	211	3.55	110	2.54		3.4
16	249	4.90			117	2.20		3.4
17	236	4.42						3.4
18	242	3.62						3.3
19	251	3.18						3.3
20	254	3.26						3.2
21	253	3.23						3.2
22	257	3.14						3.1
23	260	3.08						3.1

Time: 150°E.

Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.

Table 25

Christchurch, N.Z. (43.5°S, 172.6°E)

July, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.13						
01		3.22						
02		2.96						
03								
04		2.78						
05		2.57						
06		2.53						
07		4.04						
08	215							
09	221	4.49						
10	242	4.66	206	3.56				
11	255	4.94	217	3.77				
12	268	5.07	210	3.75				
13	254	5.29	208	3.74				
14	246	5.37	204	3.65				
15	220	5.31	206					
16	212	4.79						
17	223	4.13						
18	266	3.09						
19		2.93						
20		3.15						
21		3.06						
22		3.10						
23		3.17						

Time: Local

Length of time sweep: 2.5 Mc to 12 Mc in two minutes.

Table 26

Campbell Is. (52.0°S, 169.0°E)

July, 1944.

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M5000
00								
01								
02								
03								
04								
05								
06								
07								
08	269	3.05						
09	267	3.78				2.31		
10								
11	288	4.14	225	3.29	139	2.38		
12	292	4.46	239	3.31	134	2.53		
13	284	4.43	231	3.15	133	2.37		
14								
15	261	4.47		2.65				
16								
17	297	3.22						
18								
19	396	2.48						
20								
21								
22								
23								

Time: Local

Length of time sweep: 1 Mc to 12 Mc. Manual operation.

Table 27

July, 1944

Time	Baffin Island, Canada. (70.5°N, 68.6°W)	Fairbanks, Alaska (64.9°N, 147.8°W)	Maui, Hawaii (20.8°N, 156.5°W)	Trinidad, British West Indies (10.6°N, 61.3°W)	Huancayo, Peru (12°0'S, 75.3°W)	Watheroo, Western Australia (30.3°S, 115.0°E)
Time	fEs	fEs	fEs	fEs	fEs	fEs
00		3.5	3.2	**	**	2.8
01		3.8	2.9	**	**	2.9
02	**	4.9	3.5	**	**	2.9
03		4.9	2.8	**	**	2.9
04	**	4.6	2.9	**	**	2.9
05		3.6	2.8	**	**	2.9
06	**	3.3	3.0	**	**	2.9
07		3.8	3.3	**	2.7	2.9
08	**	3.3	4.4	2.6	3.7	2.9
09		3.3	5.5	3.2	4.5	2.9
10	**	3.6	5.1	3.6	4.5	3.0
11	**	3.3	5.0	3.9	4.5	3.2
12	**	3.3	4.8	4.2	4.5	3.4
13		3.2	5.0	4.4	4.5	3.5
14	**	3.2	5.0	5.4	4.5	3.6
15		3.0	4.9	5.3	4.5	3.4
16	**	3.0	4.8	4.7	4.5	3.2
17	**	3.1	5.5	5.0	4.4	3.0
18	**	3.1	4.6	4.2	3.4	2.9
19		3.3	4.0	4.0	**	3.0
20	**	3.4	3.2	3.5	**	2.9
21	**	4.1	3.7	3.2	**	2.8
22		3.2	3.6	2.6	**	2.8
23		3.9	3.0	**	**	2.8
	Time: 750W 2 Mo to 16 Mo in 1 minute supplemented by manual ap- paratus with low frequency limit 1.6 Mc.	Time: 1500W 16 Mo to 0.5 Mc in 15 minutes	Time: 1500W 2 Mo to 16 Mo in 1 minute	Time: 600W 2 Mo to 16 Mo in 1 minute	Time: 750W 16 Mo to 0.5 Mc in 15 minutes	Time: 1200E 16 Mo to 0.5 Mc in 15 minutes.

Table 28

Watheroo, Western Australia (30.3°S, 115.9°E)

Time	June 1944 fEs	April 1944 fEs	March 1944 fEs
00	2.8	2.9	2.9
01	2.8	2.9	2.9
02	2.8	2.9	3.0
03	2.8	2.9	2.9
04	2.8	2.8	2.8
05	2.8	2.9	2.5
06	2.8	2.9	2.2
07	2.8	2.8	3.0
08	2.9	3.0	3.1
09	**	3.0	3.6
10	**	3.4	3.8
11	3.4	3.5	3.3
12	4.4	3.6	3.3
13	4.6	3.5	3.6
14	4.0	3.4	3.5
15	4.4	**	**
16	3.8	3.0	3.3
17	3.0	3.0	3.0
18	3.0	2.9	2.9
19	3.0	2.9	2.7
20	2.8	2.9	2.3
21	2.8	2.8	2.6
22	2.8	2.9	2.8
23	2.8	2.9	2.8

Time: 1200E.

Length of time sweep: 16 Mc to 0.5 Mc in 15 minutes.

Washington, D. C.

Ionosphere Station

IONOSPHERIC A-1

TABLE 20

RESTRICTED

Records measured by: S.M.O.
P.A.G.Hourly values of $h'F_2$ in $^{\circ}$ August 1944
(Month)National Bureau Of Standards
(Institution)

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
2	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
3	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
4	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
5	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
6	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
7	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
8	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
9	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
10	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
11	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
12	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
13	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
14	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
15	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
16	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
17	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
18	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
19	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
20	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
21	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
22	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
23	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
24	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
25	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
26	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
27	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
28	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
29	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
30	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
31	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Sum	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Mean ¹	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
Mean ²	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250

For all days of the month

For quiet days

 $h'F_2$

August, 1944

TABLE 30

IONOSPHERE DATA-2

Washington, D.C.

Ionosphere Station

National Bureau of Standards

(Institution)

RESTRICTED

Records measured by: S.M.O.
P.A.G.Hourly values of f_oF_2 in (MHz) for August 1944
(Month)

TIME: 75°W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	1.8 F	1.7 F	1.7	1.6	1.6	2.3	3.1	3.7	(3.9)	4.6	5.0	4.5	(4.6)	(4.7)	(4.2)	4.5	(4.7)	4.6	4.7	4.8	4.8	4.2	3.3	2.8	3.74	
2	2.5	2.3	2.2 F	1.9 F	1.8 F	2.3	(3.5)	(4.0)	4.8	4.5	(4.7)	5.1	4.7	4.8	(5.4)	(3.9)	(4.0)	4.8	3.7 K	3.9 K	3.7 K	3.2 K	2.8 K	2.4 K	5.43	
3	C K	C K	C K	C K	C K	C K	C K	C K	C K	(3.7) K	(3.7) K	(3.8) K	(3.9) K	(3.9) K	(3.7) K	(3.7) K	(4.0) K	3.8 K	3.7 K	3.9 K	4.1 K	3.5 K	(3.3) K	2.6 K	6.58	
4	2.0 K	1.6 K	C K	C K	C K	C K	C K	C K	4.0 K	(4.0) K	C K	C K	(4.1) K	(4.1) K	(4.3) K	4.4 K	C K	C K	C K	4.5 K	4.1 K	3.5 K	(3.3) K	2.6 K	6.58	
5	(2.1) K	1.7 K	C K	C K	C K	C K	C K	C K	C K	C K	4.5	4.6	4.8	(4.4)	C K	C K	C K	C K	C K	C K	C K	C K	C K	3.5	2.56	
6	3.1	2.9	1.9 F	1.9 F	1.8	2.3	3.4	C	C	C	4.8	(4.8)	5.0	(4.8)	(5.0)	4.9	4.8	4.7	4.8	4.9	4.8	4.2	3.3	3.2	8.12	
7	2.9	2.2	2.0	1.7	1.7	2.0	3.4	3.7	4.8	5.2	C	C	(5.1)	(5.1)	5.1	(5.0)	(5.0)	5.5	5.1	5.4	5.6	4.6	3.5	3.1	8.74	
8	2.8	2.4 F	2.1 F	1.9 F	1.8 F	2.3 F	3.4	(4.7)	4.1	(5.2)	(4.8)	5.4	5.1	(5.4)	5.4	5.1	5.8	5.5	5.7	5.6	(5.4)	4.8	3.8	(3.0)	10.26	
9	3.2	3.0	2.9	2.3 F	1.9 F	2.4	3.6	4.3	4.3	(5.0) A	5.7	5.8	5.5	5.7	6.0	5.1	5.8	5.7	5.7	5.8	5.2	4.1	3.2	3.0	10.62	
10	2.5	2.4	1.1 F	1.8 F	1.7 F	2.0 F	3.3	(4.3) A	(4.4)	5.2	(5.2)	(4.7)	(4.7)	(5.3)	5.3	(5.0)	4.7	4.8	4.7	4.5	3.8	3.4	3.4	3.3	9.79	
11	3.0	2.8	2.3 F	2.0 F	1.8 F	2.2 F	3.6	(4.3)	4.6	4.9	A	A	(4.9) A	(5.5)	5.0	(5.0)	5.0	5.2	5.7	5.5	5.2	4.0	3.3	3.1	9.39	
12	(2.9)	2.4 F	2.4 F	1.9 F	1.8 F	2.2 F	3.6	4.1	(4.5)	4.6	(5.0)	(4.5)	(4.6)	(4.7)	(4.8)	5.0	4.9	5.0	4.8	5.1	5.3	4.2	3.1	3.4	10.32	
13	2.7	2.5	2.2 F	2.2 F	2.2 F	2.3 F	3.5	(4.2)	4.2	A	A	A	A	(4.7)	(4.8)	4.8	4.7	4.9	5.3	5.0	5.7	4.8	3.7	3.1 F	7.82	
14	2.7	2.5 F	2.3 F	2.7	2.4	3.0	4.0	4.4	4.8	5.0	(4.4)	4.7	4.8	(4.6)	(4.6)	(4.6)	(4.7)	5.0	(4.7)	5.2	5.6	7.8	3.5 F	3.2 F	7.82	
15	2.7 F	2.4 F	2.3 F	2.2 F	2.2 F	2.6 F	3.5	4.1	(4.5)	(5.7)	(5.7)	5.1	5.2	5.2	(5.3)	4.1	(4.8)	(5.2)	C	C	C	C	C	C	6.23	
16	C	C	(2.3)	(2.1)	2.0	2.3	3.8	4.2	(5.4)	(5.7)	(5.7)	5.1	5.2	5.2	(5.3)	4.1	(4.8)	(5.2)	C	C	C	C	C	C	6.23	
17	(2.9)	2.6	(2.3)	(2.0)	(1.8)	(2.0)	3.7	C	C	(4.7)	5.4	(5.3)	5.2	5.2	5.4	5.1	5.2	5.4	5.5	6.2	5.6	4.7	4.1	3.6	7.61	
18	3.0	2.6	2.2 F	2.0 F	(2.2)	1.8 F	3.0	4.0	(4.7)	4.8	4.7	(4.6)	(4.7)	(4.7)	4.8	4.1	(4.8)	4.6	4.5	4.8	4.6	3.6	3.3	3.1 F	4.13	
19	2.4 F	(2.6) A	2.3 F	1.8 F	1.7 F	1.7 F	3.3	4.0	4.4	4.8	(4.6)	5.1	4.7	4.8	4.8	4.7	4.8	5.0	4.9	4.6	4.4	4.1 F	3.6 F	3.3 F	9.13	
20	2.6 F	(2.2) F	2.1 F	2.2 F	2.2 F	2.3 F	3.7	(4.4)	4.2	(4.5)	4.4	4.8	(4.8)	4.7	4.8	4.7	4.8	5.0	5.2	5.1	4.8	3.5 F	3.5 F	(2.7) F	7.43	
21	2.6 F	2.4 F	2.0 F	(1.9) F	1.8 F	2.2 F	4.0	(4.6)	5.0	5.6	(5.3)	5.3	5.1	5.2	5.3	5.5	5.1	5.1	5.2	5.7	5.8	5.0	3.4 F	3.2 F	10.34	
22	2.8 F	2.8 F	2.6 F	2.1 F	2.0 F	2.1 F	3.4	C	C	5.5	5.7	5.4	5.1	5.2	5.3	(5.2)	5.0	4.8	5.1	5.8	5.5	4.6	3.4	3.4	7.32	
23	3.4	2.8	2.5	2.1 F	1.8 F	1.9 F	3.0	(3.5) K	(4.1) K	(4.3) K	4.8	(4.8)	4.2	(4.3)	4.7	4.5	4.6	4.6	4.5	4.2	4.6	2.7	2.5	2.2 F	8.22	
24	2.1 F	2.2 F	2.3 F	2.3 F	2.2 F	2.3	3.6	(3.7) K	4.1 K	5.2 K	4.9 K	(4.2) K	(4.8) K	(4.8) K	4.5 K	4.5 K	4.4 K	4.6	4.5	4.6	4.7 F	3.1 F	2.8 F	(2.7) F	8.46	
25	2.6	2.8	2.8	2.6 F	(2.5) F	2.3 F	3.8	5.1	4.8	5.4	5.2	5.2	5.0	5.4	5.6	5.0	5.0	5.1	5.1	5.1	5.1	4.1 F	3.5 F	3.5 F	12.32	
26	3.2 F	3.0 F	2.9	2.8 F	2.8 F	2.9 F	4.0	4.7	5.5	6.2	6.0	5.4	5.1	5.2	5.2	5.4	5.4	5.0	5.7	6.2	6.2	5.4	4.5	4.5	11.23	
27	3.2	2.8 F	2.5 F	2.3 F	2.2 F	2.2 F	4.1	5.6	6.6	6.6	6.7	6.5	6.4	6.5	6.5	6.4	6.5	6.5	6.1	6.3	6.4	5.3	4.2	2.5	11.43	
28	3.2	2.7	1.7 F	1.2 F	1.4 F	1.7 F	3.7	4.5	4.5	4.5	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.9	4.9	4.9	4.4	4.2	3.7	3.3	10.22	
29	2.8	2.5 F	2.2 F	2.0 F	1.8 F	2.0 F	3.7	5.1	(5.7)	5.0	6.2	5.7	5.3	5.3	5.1	5.3	4.8	5.5	5.4	5.4	6.1	5.7	4.9	4.3	11.23	
30	3.7	3.2	2.8	2.3	1.9	2.0	3.4	4.8	5.8	5.0	6.7	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	11.23	
31	3.3	3.2	2.8	2.3	1.8 F	1.8 F	3.5	4.7	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	11.23	
Sum	80.7	72.5	64.3	58.0	54.5	51.4	103.3	111.4	127.7	121.6	137.2	135.1	127.7	121.6	115.5	111.4	111.4	111.4	111.4	111.4	111.4	111.4	111.4	111.4	111.4	
Mean	2.6	2.3	2.1	2.0	1.9	1.8	3.3	3.6	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
Mean ²	2.4	2.1	1.9	1.7	1.6	1.5	3.1	3.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	

For all days of the month

2 For quiet days

 f_oF_2

August, 1944

Washington, D.C.

Ionosphere Station

National Bureau of Standards

(Location)

(Institution)

TABLE 31

IONOSPHERE DATA-3

Hourly values of $h'F_1$ in \square for August 1944
(Month)

Records measured by: S.M.O.
P.A.G.

RESTRICTED

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean	
1							200	220	220	220	200	180	200	200	200	220	220	220	220						2530		
2							(240)	220	210	210A	200	200	200	200	240	(240)	C	C	C	C	C				1760		
3							C	K	240A	200K	200K	200K	200K	200K	200K	240K	220K	220K	220K						1980		
4							220K	220K	200K	C	K	C	A	200K	220K	220K	220K	230K	230K						2160		
5							C	C	C	200	240	200	200	200K	C	C	C	C	C						840		
6							C	C	C	200	200	200	200	200	200	240	240	220	240						1971		
7							230	230K	220	210C	220	200	200	220K	220	220	200	230K	220						2620		
8							220	200	190K	260	200	200	190	230	230K	230	220	240K	240						2640		
9							240	220A	220A	220	220	200	A	200	220	220	240	240	240A						2460		
10							220A	220	220	220	200C	180	200	200	210	220	220	240	240						2590		
11							240	230	240	A	A	A	A	A	A	A	A	A	240						950		
12							(250)	220	220	200A	200	180	180	210A	220K	220	240	A	A						2160		
13							220	200	A	A	A	A	A	220	A	A	A	A	A						640		
14							230	200	240	200	220	200	200	200	220	220	250	A	A						2160		
15							200	210	200	200	180K	180	220	220	220	220	C	C	C						1830		
16							230	210	210A	200A	200	200	200	220	230	240	C	C	C						2200		
17							C	C	220	180	200	200	200	200	220	220	220	240	240						2120		
18							220	220	200	220	220	180	190	200	220	220	240	230A	240						2600		
19							240	230K	220K	200	220	220	200	220	220K	220	220	230	A						2420		
20							220	200	200	190	200	200	190	200	220	230A	220	220	210	230A					2510		
21							210	230	220	210	200	200	200	200	220	220	220	220	220						2560		
22							C	C	200	200	180	180	200	200	220	220	240	220	240						2110		
23							220K	220K	220K	220K	200K	200K	200K	210K	230K	240K	240K	240	240						2700		
24							240K	220K	220K	220K	220K	220K	220K	220K	220K	220K	220K	240	240						2440		
25							230	220	220	220	200	200	200	200	200	220	230	240	240						2600		
26							230	220	200	200	200	200	200	200	220	220	220	220	240						2590		
27							220	230	200	200	200	200	200	200	220	220	230	220	240						2590		
28							230	240	220	180	200	200	200	200	220	220	230	220	240						2470		
29							240	220	200	200	200	200	200	200	220	220	220	240	240						2630		
30							230	220	180	220	200	200	200	200	220	220	220	220	220						2570		
31							2670	220	180	220	200	200	200	200	220	220	220	220	220						2640		
Sum							5670	5690	5990	5780	5680	5600	6330	6080	6070	5720	5290	5140							69040		
Mean ¹							227	219	214	206	203	200	211	217	225	229	230	234									
Mean ²							227	219	213	206	202	198	211	219	224	228	229	234									

¹For all days of the month.²For quiet days

h'F.

August, 1944

TABLE 32

IONOSPHERE DATA-4

Washington, D. C. Ionosphere Station

National Bureau Of Standards
(Institution)

Hourly values of f^oF_1 in $^{\circ}$ for August 1944
(Month)

RESTRICTED

Records measured by: S.M.O.
P.A.G.

TIME: 75° W MERIDIAN																											
Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean	
1								3.5	3.7	3.9	4.0	4.2	4.2	4.1	4.2	4.0	4.0	3.5	3.3						46.6		
2								(3.5)	3.8	4.0	[4.0]A	4.2	4.2	4.1	4.1	C	C	C	C						31.9		
3								C ^K	C ^K	3.7 ^K	(3.9) ^K	(3.9) ^K	(3.9) ^K	(3.9) ^K	(3.9) ^K	3.7 ^K	3.7 ^K	3.5 ^K	C ^K						34.0		
4								3.6 ^K	3.8 ^K	4.0 ^K	C ^K	C ^K	(4.1) ^K	4.1 ^K	(4.0) ^K	3.9 ^K	3.8 ^K	3.6 ^K	3.3 ^K						38.2		
5								C	C	C	4.1	4.1	4.2	4.1	C	C	C	C	C						16.5		
6								C	C	C	4.1	(4.3)	4.3	4.3	(4.2)	4.2	4.0	3.7	(3.2)						36.3		
7								3.5	3.9	4.2	[4.4]C	4.4	4.4	[4.4]C	4.3	(4.2)	(4.1)	3.9	3.2						48.9		
8								3.8	3.7	4.4	(4.4)	4.5	4.4	4.3	(4.2)	4.3	4.1	[3.9]A	3.6						49.6		
9								(3.8)	4.0	[4.2]A	4.3	4.5	(4.5)	4.4	4.4	4.3	4.2	3.8	3.5						49.9		
10								A	4.0	4.0	(4.2)	[4.3]C	(4.3)	4.4	4.3	4.2	3.9	3.8	3.4						44.8		
11								3.7	4.0	4.2	A	A	[4.3]A	(4.4)	4.4	[4.2]A	4.1	3.9	3.5						40.7		
12								3.8	4.0	4.2	4.3	4.5	4.3	4.4	[4.3]A	4.2	4.2	[3.8]A	A						46.0		
13								(3.7)	4.2	A	A	A	A	(4.4)	[4.4]A	[4.3]A	4.1	A	A						25.1		
14								3.7	4.0	4.3	(4.4)	4.3	4.4	4.4	4.2	4.2	4.0	3.9	A						45.8		
15								3.7	3.9	4.1	4.2	4.4 ^N	4.4	4.4	4.3	4.2	C	C	C						37.6		
16								3.6	3.9	4.2	[4.2]A	4.3	4.4	4.3	4.2	4.2	3.9	[3.7]C	(3.4)						48.3		
17								C	C	(4.2)	4.2	4.4	4.4	4.4	4.3	4.1	4.0	3.8	(3.3)						41.1		
18								3.6	3.8	4.1	4.2	4.2	4.3	4.3	4.2	4.1	4.2	(3.7)							44.7		
19								(3.6)	3.8	4.2 ^N	4.2	4.3	4.3	4.3	[4.3]A	4.2	4.0	3.8	A						45.0		
20								3.6	3.9	4.2	4.2	4.3	4.3	4.3	4.3	[4.1]A	4.0	3.6	3.4						48.2		
21								(3.8)	4.2	4.2	4.3	4.3	(4.4)	4.5	4.3	4.2	4.0	3.8	3.5						49.5		
22								C	C	4.1	4.3	4.3	(4.4)	4.3	4.3	4.2	4.2	3.7	3.4						41.2		
23								3.3 ^K	3.8 ^K	4.0 ^K	4.1 ^K	4.3 ^K	4.3 ^K	(4.3) ^K	4.1 ^K	4.0 ^K	3.8 ^K	3.6 ^K	3.2						46.8		
24								3.7 ^K	3.8 ^K	4.0 ^K	4.2 ^K	(4.2) ^K	4.3 ^K	[4.2]A	4.2 ^K	4.1 ^K	3.9 ^K	3.7							44.3		
25								3.6	3.9	4.1	4.3	4.4	4.3	4.3	4.3	4.1	4.0	3.8							45.2		
26								3.6	4.0	4.1	4.3	4.4	4.5	4.3	4.4	4.4	4.1	3.6	(3.1)						48.8		
27								3.6	4.0	4.1	4.3	4.4	4.5	4.4	4.3	4.2	4.0	3.7	3.0						48.5		
28								3.9	4.2	4.2	4.2	4.2	4.3	4.3	4.2	4.2	3.9	3.7	3.1						44.2		
29								3.6	4.1	4.2	4.5	4.5	4.5	4.6	4.5	4.3	4.2	3.8							46.8		
30								3.6	4.0	4.4	4.4	4.5	4.5	4.6	4.4	4.2	4.0	3.9	3.1						49.6		
31								3.5	4.0	4.1	4.3	4.5	4.6	[4.5]C	4.5	4.2	4.0	3.6							45.8		
Sum								87.0	104.1	115.7	118.5	121.0	130.2	134.0	138.0	120.7	112.4	100.8	59.5						1329.9		
Mean ¹								3.62	3.93	4.13	4.23	4.32	4.34	4.32	4.27	4.16	4.01	3.73	3.30								
Mean ²								3.64	3.94	4.17	4.25	4.35	4.37	4.35	4.30	4.20	4.05	3.75	3.30								

¹For all days of the month

²For quiet days

f^oF_1

August, 1944

Washington, D.C.
National Bureau of Standards
(Location)
(Institution)

TABLE 33
IONOSPHERE DATA-5

RESTRICTED

Records measured by: S.M.O.
P.A.G.

Hourly values of $h' E$ in μ for August 1944
(Month)

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1							120	120	120	120	120	120	120	120	120	120	120	120	120						1540	
2							120	120	120	120	120	120	120	120	120	120	120	120	120						1050	
3							120	120	120	120	120	120	120	120	120	120	120	120	120						1060	
4							120	120	120	120	120	120	120	120	120	120	120	120	120						1190	
5							120	120	120	120	120	120	120	120	120	120	120	120	120						480	
6							120	120	120	120	120	120	120	120	120	120	120	120	120						1140	
7							120	120	120	120	120	120	120	120	120	120	120	120	120						1510	
8							120	120	120	120	120	120	120	120	120	120	120	120	120						1530	
9							120	120	120	120	120	120	120	120	120	120	120	120	120						1540	
10							120	120	120	120	120	120	120	120	120	120	120	120	120						1550	
11							120	120	120	120	120	120	120	120	120	120	120	120	120						1530	
12							120	120	120	120	120	120	120	120	120	120	120	120	120						1550	
13							120	120	120	120	120	120	120	120	120	120	120	120	120						1560	
14							120	120	120	120	120	120	120	120	120	120	120	120	120						1410	
15							120	120	120	120	120	120	120	120	120	120	120	120	120						1190	
16							120	120	120	120	120	120	120	120	120	120	120	120	120						1520	
17							120	120	120	120	120	120	120	120	120	120	120	120	120						1280	
18							120	120	120	120	120	120	120	120	120	120	120	120	120						1530	
19							120	120	120	120	120	120	120	120	120	120	120	120	120						1390	
20							120	120	120	120	120	120	120	120	120	120	120	120	120						1330	
21							120	120	120	120	120	120	120	120	120	120	120	120	120						1520	
22							120	120	120	120	120	120	120	120	120	120	120	120	120						1240	
23							120	120	120	120	120	120	120	120	120	120	120	120	120						1480	
24							120	120	120	120	120	120	120	120	120	120	120	120	120						1550	
25							120	120	120	120	120	120	120	120	120	120	120	120	120						1530	
26							120	120	120	120	120	120	120	120	120	120	120	120	120						1430	
27							120	120	120	120	120	120	120	120	120	120	120	120	120						1560	
28							120	120	120	120	120	120	120	120	120	120	120	120	120						1540	
29							120	120	120	120	120	120	120	120	120	120	120	120	120						1540	
30							120	120	120	120	120	120	120	120	120	120	120	120	120						1420	
31							120	120	120	120	120	120	120	120	120	120	120	120	120						1570	
Sum							3460	3460	3460	3460	3460	3460	3460	3460	3460	3460	3460	3460	3460						45020	
Mean ¹							111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6						119	
Mean ²							117	117	117	117	117	117	117	117	117	117	117	117	117						119	

¹For all days of the month

²For quiet days

$h' E$

August, 1944

TABLE 34

IONOSPHERE DATA-6

(Location) Washington, D.C.

Ionosphere station

(Institution) National Bureau of Standards

RESTRICTED

Records measured by: S.M.O.
P.A.G.Hourly values of f^oE in MHz for August 1944
(Month)

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean	
1							(1.8)	(2.4)	(2.7)	(2.9)	(3.1)	(3.2)	(3.3)	(3.4)	(3.5)	(3.6)	(3.7)	(3.8)	(3.9)	(4.0)	(4.1)	(4.2)	(4.3)	(4.4)	36.2		
2							(1.9)	(2.5)	A	A	A	(3.3)	A	(3.4)	(3.5)	C	C	C	C	A					17.4		
3							C	C	C	(2.8)	(2.9)	(2.9)	A	A	B	(3.0)	A	A	A	A					17.6		
4							C	(2.3)	(2.6)	(2.7)	C	C	C	(3.2)	(3.2)	(3.2)	(2.8)	(2.5)	A	A					22.6		
5							C	C	C	C	A	(3.3)	(3.2)	(3.2)	A	C	C	C	C	C					27		
6							(1.8)	C	C	C	(3.1)	(3.3)	(3.3)	(3.3)	(3.2)	(3.1)	(2.9)	(2.5)	(2.1)	A					28.6		
7							1.8	(2.5)	(2.8)	A	C	A	A	C	A	A	(2.9)	(2.7)	A	A					12.7		
8							1.9	2.5	2.9	(3.1)	(3.3)	(3.4)	(3.4)	(3.2)	(3.1)	(3.1)	3.1	A	A						33.0		
9							1.9	2.5	3.0	(3.2)	(3.3)	A	(3.3)	(3.3)	(3.3)	(3.3)	(3.1)	2.8	2.1						35.0		
10							1.9	A	A	A	A	C	A	C	(3.2)	(3.2)	(2.7)	(2.5)	2.3						15.8		
11							1.9	2.5	2.9	(3.1)	(3.2)	(3.2)	(3.2)	(3.2)	(3.1)	3.3	3.1	2.5	(2.0)						37.2		
12							1.9	A	A	A	A	(3.3)	(3.4)	3.4	(3.3)	3.2	(3.0)	(2.6)	A						24.1		
13							(1.9)	(2.7)	A	A	A	A	A	A	A	A	A	(2.8)	A						7.4		
14							A	A	B	B	B	B	(3.3)	A	A	A	3.0	(2.8)	A						4.1		
15							1.8	A	A	A	A	A	A	A	A	(3.2)	C	C	C						5.0		
16							1.9	(2.5)	(2.9)	A	A	A	(3.2)	A	C	(3.0)	(2.8)	(2.5)	(2.0)						20.8		
17							(1.9)	C	C	(3.1)	(3.2)	3.4	(3.4)	3.4	3.4	3.2	(3.1)	2.6	(2.0)						32.7		
18							(1.8)	2.5	2.7	3.0	(3.2)	3.4	(3.4)	(3.4)	(3.2)	(3.1)	2.5	(3.5)	(1.7)						36.7		
19							(2.3)	2.6	A	A	A	A	A	A	A	A	A	A	A						4.4		
20							2.3	2.7	A	A	A	A	A	A	A	3.2	(2.7)	(2.6)	A						13.5		
21							A	(2.4)	A	A	A	A	(3.3)	3.3	(3.2)	3.1	3.0	2.5	2.1						22.4		
22							1.8	C	C	(3.1)	(3.2)	(3.4)	(3.4)	(3.3)	(3.2)	3.1	2.9	2.4	2.1						32.1		
23							1.8	2.5	(2.8)	3.0	(3.2)	(3.4)	C	C	C	(3.1)	(2.4)	2.5	A						28.5		
24							(2.0)	2.4	2.7	(2.7)	3.1	A	A	A	A	3.0	A	A	A						16.1		
25							A	2.3	2.7	(3.0)	A	A	A	A	A	(3.0)	(2.9)	2.6	1.9						18.4		
26							2.2	(2.8)	3.0	A	A	A	A	A	(3.2)	3.2	(3.1)	(2.4)	(1.9)						22.0		
27							(1.9)	(2.3)	(3.0)	(3.0)	(3.2)	(3.2)	(3.3)	(3.2)	(3.2)	(3.1)	(2.8)	A	A						32.1		
28							1.8	2.5	2.8	2.9	A	A	A	(3.3)	(3.2)	3.0	2.9	2.6	1.4						26.4		
29							1.8	2.4	(2.9)	A	A	A	(3.3)	(3.3)	(3.2)	3.1	(3.0)	2.5	(1.4)						27.4		
30							(2.3)	2.8	3.1	A	B	B	3.4	(3.3)	3.3	3.1	2.4	(2.5)	1.8						28.5		
31							(1.7)	(2.2)	(2.7)	3.0	A	A	A	C	(3.3)	3.0	2.7	2.3							20.1		
Sum							38.4	53.0	52.4	51.1	37.9	46.0	53.1	55.9	64.2	77.8	70.0	59.1	24.7						286.8		
Mean							1.85	2.41	2.78	3.00	3.16	3.28	3.32	3.29	3.22	3.11	2.92	2.57	1.77								
Mean							1.85	2.41	2.80	3.04	3.19	3.31	3.32	3.29	3.22	3.12	2.92	2.58	1.77								

2 For quiet days

1 For all days of the month

f°E

August, 1944

TABLE 35

IONOSPHERE DATA-7

Washington, D. C.

Ionosphere Station

National Bureau of Standards

(Location)
(Institution)

RESTRICTED

Records measured by: S. M. O.
P. A. B.Hourly values of E_s for August 1944
(Month)

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean
1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
10	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
11	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
12	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
13	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
14	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
15	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
16	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
17	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
18	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
20	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
21	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
22	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
23	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
24	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
25	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
26	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
27	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
28	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
29	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
30	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
31	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Sum																									
Mean																									
Mean																									

For all days of the month

2 For quiet days

E S

August, 1944

Washington, D. C.

Ionosphere Station

TABLE 36

IONOSPHERE DATA - 8

RESTRICTED

(Institution) National Bureau of Standards

Records measured by: S. M. O.
P. A. G.Hourly values of F2-M 1500 for August 1944
(Month)

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	2.17 ^F	1.82 ^F	1.94	2.02	1.99	2.20	2.40	1.55	(1.64)	1.94	2.15	1.91	(1.84)	(1.76)	G	1.95	C	2.03	2.11	2.15	2.15	2.17	2.14	2.04	44.07	
2	1.90	2.10	1.90 ^F	2.02 ^F	2.07	2.25	(2.40)	(1.85)	2.11	1.85	A	1.84	1.79	1.72	1.95	C	C	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	27.65	
3	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	G ^K	G ^K	G ^K	G ^K	G ^K	G ^K	G ^K	(1.65) ^K	1.65 ^K	1.97 ^K	1.97 ^K	1.94 ^K	1.97 ^K	2.01 ^K	1.52.22		
4	1.98 ^H	2.02 ^H	C ^K	C ^K	C ^K	C ^K	(2.46) ^K	G ^K	1.72 ^K	G ^K	C ^K	C ^K	C ^K	C ^K	(1.70) ^K	1.65 ^K	1.75 ^K	1.85 ^K	1.96 ^K	2.24 ^K	2.12 ^K	2.00 ^K	1.98 ^K	2.12 ^F	27.45	
5	(2.13) ^F	2.15 ^F	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	C ^K	(1.58)	(1.85)	(1.85)	1.95	(1.80)	C	C	C	C	C	C	C	C	C	2.30	13.78	
6	2.19	2.06	2.20 ^F	2.02 ^F	1.87	2.14	2.31	C	C	C	1.80	C	(2.00)	C	(2.00)	1.85	2.05	1.91	2.00	2.10	2.10	2.20	2.10	1.99	38.86	
7	2.00	1.95	1.95	1.91	1.92	2.21	2.10	1.82	2.18	2.35	C	C	(1.70)	C	1.98	(1.93)	(1.95)	2.03	2.03	2.17	2.20	2.10	2.15	2.10	42.73	
8	1.98	2.01 ^F	2.15 ^F	(2.00) ^F	1.96	2.20 ^F	2.21	(1.93)	2.12	(2.48)	(1.65)	1.85	(1.60)	(1.94)	1.87	1.91	2.01	A	1.94	2.15	(2.20)	2.05	1.96	A	44.07	
9	1.94	1.94	1.95	1.95 ^F	2.00 ^F	2.05 ^F	2.26	1.85	(2.03)	A	(2.00)	2.10	(1.90)	2.01	2.08	2.11	2.18	2.10	2.15	2.31	2.15	2.12	2.01	1.98	47.17	
10	2.10	2.05	2.00 ^F	1.95 ^F	2.05 ^F	2.21 ^F	2.12	1.85	(1.65)	2.05	(2.23)	C	1.55	(1.78)	1.97	(1.88)	2.04	2.05	2.21	2.22	2.10	1.90	2.00	2.03	44.16	
11	1.99	2.09	2.20 ^F	1.97 ^F	(2.01) ^F	2.15 ^F	2.21	(2.00)	2.18	2.05	A	A	(2.01)	1.82	A	1.91	1.91	2.05	2.17	2.20	2.04	2.09	2.02	1.95	41.11	
12	2.08	2.00 ^F	2.15 ^F	2.10 ^F	2.19 ^F	2.10 ^F	2.20	1.98	(1.94)	1.64	(1.92)	G	(1.68)	G	A	1.82	1.86	2.07	2.01	2.11	2.01	2.14	2.22	2.22	40.10	
13	2.00	2.08	2.03 ^F	2.00 ^F	2.11 ^F	2.21 ^F	2.36	(1.98)	G	A	A	A	A	A	A	A	1.74	1.98	1.98	2.08	2.21	2.21	2.22	2.05 ^F	34.76	
14	1.94	2.05	2.10 ^F	2.08	2.10	2.23	2.32	2.31	2.12	2.12	G	(1.76)	1.75	(1.53)	(1.53)	1.82	(1.90)	2.08	A	2.17	2.20	2.24	2.15	1.98 ^F	42.95	
15	2.17 ^F	2.00 ^F	(2.08) ^F	(2.03) ^F	(1.97) ^F	2.17 ^F	2.31	2.16	(2.10)	(2.10)	1.55	1.92	(1.74)	1.92	1.73	(1.78)	(1.75)	C	C	C	C	C	C	C	31.21	
16	C	C	2.20	(2.20)	2.10	2.26	2.34	2.30	(2.10)	(2.10)	A	1.92	1.92	2.00	(1.96)	(1.92)	(1.90)	C	(2.10)	(2.15)	(2.28)	(2.10)	2.12	1.97	41.20	
17	(1.96)	2.06	(1.92)	A	A	(2.20)	2.12	C	C	(1.56)	2.03	(2.00)	1.83	1.85	2.00	1.95	2.05	2.13	2.17	2.02	2.10	2.09	2.15	2.05 ^F	40.24	
18	2.01	1.99	2.00 ^F	2.21 ^F	(1.98) ^F	2.00 ^F	2.40	1.89	(2.30)	1.85	(1.90)	(1.55)	(1.70)	(1.44)	(1.76)	1.88	(1.98)	1.97	2.01	2.15	2.05	2.02	A	2.05 ^F	44.99	
19	(2.33) ^F	A	(2.12) ^F	2.11 ^F	A	(2.03) ^F	C	2.11	1.90	1.95	(1.65)	2.14	1.65	1.85	A	1.95	1.85	1.95	2.16	2.22	2.10 ^F	2.05 ^F	2.15 ^F	40.40		
20	2.11 ^F	(2.02) ^F	2.05 ^F	2.02 ^F	(2.18) ^F	(2.18) ^F	2.49	(2.20)	1.91	1.86	2.00	1.91	(1.98)	1.69	(1.75)	A	1.96	1.98	2.12	2.18	2.17	A	2.15 ^F	42.93		
21	2.02 ^F	2.06 ^F	2.08 ^F	2.08 ^F	(2.30) ^F	(2.16) ^F	2.40	(2.18)	1.96	2.21	(2.12)	2.12	1.78	1.95	2.10	2.10	1.94	1.98	1.98	2.14	2.15	2.20	(2.22)	2.00 ^F	48.18	
22	2.08 ^F	2.15 ^F	2.02 ^F	2.07 ^F	2.00 ^F	2.10 ^F	2.21	C	C	2.30	2.18	1.97	1.94	1.94	2.00	1.94	2.04	2.10	2.00	2.20	2.16	1.95	1.90	1.95	45.27	
23	2.18	2.00	2.11	2.07 ^F	2.10 ^F	1.89 ^F	2.09	G ^K	(1.43)	(1.68) ^K	2.01 ^K	(1.64) ^K	G ^K	G ^K	(1.68) ^K	(1.73) ^K	(1.73) ^K	2.02	2.17	2.11	2.03	2.04	1.88 ^F	40.50		
24	(2.03) ^F	2.04 ^F	2.07 ^F	1.91 ^F	1.90 ^F	2.10	2.27	G ^K	1.56 ^K	2.01 ^K	1.60 ^K	G ^K	(1.55) ^K	A ^K	G ^K	(1.55) ^K	(1.68) ^K	2.01	2.04	2.14	2.22	2.22	2.05 ^F	36.86		
25	2.00	1.92	1.95	1.97 ^F	(2.00) ^F	(2.02)	2.21	2.27	2.21	2.14	1.92	1.88	1.87	1.98	2.07	1.83	2.00	2.11	2.19	2.14	2.26	(2.18)	(2.13) ^F	44.25		
26	(1.91)	2.09 ^F	1.96	2.08 ^F	(2.10) ^F	2.10 ^F	2.20	2.17	2.38	2.25	2.26	1.96	1.96	1.93	2.05	2.00	2.05	2.19	2.07	2.12	2.07	2.18	2.17	2.01	50.46	
27	2.05	2.01 ^F	2.09 ^F	2.05 ^F	2.05 ^F	2.06 ^F	2.10	2.20	2.43	2.20	2.18	1.93	2.17	2.13	2.06	2.03	1.97	2.10	2.18	2.08	2.18	2.24	2.17	2.01	50.97	
28	2.06	1.98	1.96 ^F	1.84 ^F	2.05 ^F	2.05 ^F	2.18	2.20	2.00	1.65	1.90	(1.80)	1.68	1.88	2.05	1.92	1.95	2.10	2.06	2.05	1.98	2.00	2.00	1.97	47.24	
29	2.08	2.08 ^F	2.06 ^F	2.04 ^F	1.90 ^F	1.94 ^F	2.18	2.10	(2.26)	2.13	2.17	2.04	2.01	1.96	2.00	2.12	2.10	2.11	2.19	2.03	2.01	2.11	1.95	1.97	49.52	
30	2.10	1.94	2.00	A	(1.92)	1.98	2.13	2.21	2.20	2.27	2.15	2.19	2.05	2.10	2.03	2.00	2.07	1.98	2.08	2.05	2.14	2.16	1.98	1.99	47.79	
31	1.97	1.98	1.90	1.90	2.00	2.02 ^F	2.20	2.18	2.24	2.29	2.29	1.89	1.92	C	2.10	1.97	2.00	2.20	2.19	2.28	2.06	1.86	1.95	1.95	47.34	
Sum	59.59	56.65	51.15	50.54	52.74	59.00	63.30	45.24	50.78	45.16	41.80	47.69	40.88	46.22	47.29	52.31	50.56	56.16	59.98	59.35	56.75	55.94	52.87	12.58	33.3	
Mean ¹	2.05	2.02	2.04	2.02	2.03	2.11	2.26	2.06	2.02	2.03	1.96	1.90	1.83	1.86	1.92	1.93	1.94	2.02	2.08	2.14	2.12	2.09	2.07	2.03		
Mean ²	2.05	2.02	2.04	2.02	2.03	2.11	2.26	2.06	2.02	2.03	1.96	1.90	1.83	1.86	1.92	1.93	1.94	2.02	2.08	2.14	2.12	2.09	2.07	2.03		

For all days of the month

For quiet days

F2-M 1500

August, 1944

TABLE 37

IONOSPHERE DATA-9

(Location) Washington, D. C.

Ionosphere Station

(Institution) National Bureau of Standards

Hourly values of F₂-M3000 for August 1944 (Month)Records generated by: S.M.O.
P.A.G.

RESTRICTED

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	an	
1	3.23 ^F	2.78 ^F	2.90 ^F	3.05 ^F	2.98 ^F	3.21 ^F	3.49 ^F	2.35 ^F	(2.44)	2.96 ^F	3.22 ^F	2.90 ^F	(2.80)	(2.70)	G	2.92 ^F	C	3.10	3.20	3.16	3.19	3.20	3.21	3.10	66.09		
2	2.85 ^F	3.20 ^F	2.90 ^F	3.08 ^F	3.10	3.25 ^F	(3.48)	(2.80)	3.20	2.80	A	2.80	2.70	2.60	2.80	C	C	C	C	C	C	C	C	C	41.56		
3	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	G ^F	G ^F	G ^F	G ^F	G ^F	G ^F	(2.50) ^F	2.50 ^F	3.12 ^F	2.95 ^F	2.88 ^F	2.90 ^F	2.95 ^F	3.10 ^F	22.90		
4	3.00 ^F	3.10 ^F	C ^F	C ^F	C ^F	C ^F	(3.54) ^F	G ^F	2.62 ^F	G ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	2.65 ^F	2.81 ^F	2.85 ^F	3.30 ^F	3.14 ^F	3.05 ^F	2.97 ^F	3.20 ^F	41.31		
5	(3.10) ^F	3.20 ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	(2.38) ^F	(2.75) ^F	2.94 ^F	(2.75) ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	20.12			
6	3.20 ^F	3.04 ^F	3.26 ^F	3.04 ^F	2.80 ^F	3.22 ^F	3.49 ^F	C ^F	C ^F	C ^F	2.70 ^F	C ^F	(3.01) ^F	C ^F	(3.05) ^F	2.81 ^F	3.10	2.90	2.95 ^F	3.10	3.12	3.26	3.10	3.00	58.15		
7	3.00 ^F	3.00 ^F	2.90 ^F	2.90 ^F	(2.85) ^F	3.30 ^F	3.15 ^F	2.80 ^F	3.20	3.45 ^F	C ^F	C ^F	(2.55) ^F	C ^F	3.01 ^F	(2.95) ^F	(2.95) ^F	3.05	3.05	3.16	3.25	3.12	3.20	3.19	64.03		
8	3.15	3.19 ^F	3.10 ^F	3.00 ^F	2.92 ^F	3.21 ^F	3.22 ^F	(2.90)	3.15	(3.65) ^F	(2.50) ^F	2.80 ^F	(2.40) ^F	(2.82)	2.85 ^F	2.90 ^F	3.05	A	3.00	3.19	(3.25)	3.05	(2.98) ^F	A	66.28		
9	3.02	2.90	2.90	2.98 ^F	2.94 ^F	3.05 ^F	3.36 ^F	2.80 ^F	(3.10)	A	3.01	3.12	(2.85) ^F	3.05	3.10	3.15	3.22	3.14	3.22	3.35	3.21	3.20	3.10	2.95	70.72		
10	3.15	3.10	3.00 ^F	2.90 ^F	2.90 ^F	3.03 ^F	3.25 ^F	3.18 ^F	(2.49)	3.10	(3.35) ^F	C ^F	(2.39) ^F	(2.70) ^F	3.00	(2.85) ^F	3.10	3.10	3.29	3.29	3.12	2.90	3.02	3.11	66.42		
11	2.96	3.10	3.20 ^F	2.98 ^F	(3.05) ^F	3.15 ^F	3.30 ^F	(3.01) ^F	3.21	3.10	A	A	(3.05) ^F	2.75 ^F	A	2.90	(3.10)	3.25	3.29	3.08	3.11	3.02	2.97	61.58			
12	(3.11)	3.00 ^F	3.20 ^F	3.17 ^F	3.25 ^F	3.08 ^F	3.18 ^F	3.01 ^F	(2.95) ^F	2.49 ^F	(2.75) ^F	G ^F	(2.50) ^F	G ^F	A	2.77	2.83	3.09	3.15	3.04	3.05	3.16	3.25	60.09			
13	3.00	3.10	3.10 ^F	3.00 ^F	3.12 ^F	3.30 ^F	3.45 ^F	(2.95) ^F	G ^F	A	A	A	(2.19) ^F	A	A	A	2.65	3.00	3.00	3.11	3.30	3.28	3.30	3.05 ^F	51.90		
14	3.00	3.10 ^F	3.11 ^F	3.10	3.19	3.28	3.40	3.45 ^F	3.17	3.15	G ^F	(2.69) ^F	2.62 ^F	G ^F	(2.38) ^F	2.73	(2.85) ^F	3.10	A	3.24	3.28	3.30	3.20 ^F	64.34			
15	3.26 ^F	3.01 ^F	(3.10) ^F	(3.00) ^F	(2.90) ^F	3.21 ^F	3.39 ^F	3.20 ^F	3.09	2.80	2.32	(2.15) ^F	(2.59) ^F	2.66 ^F	(2.73) ^F	(2.70) ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	C ^F	3.00 ^F	46.91		
16	C ^F	C ^F	(3.30) ^F	(3.25) ^F	3.11 ^F	3.08 ^F	3.40 ^F	3.06 ^F	(3.14) ^F	(3.12) ^F	A	2.76	2.90	3.00	(2.95) ^F	(2.75) ^F	(2.84) ^F	C ^F	(3.09) ^F	(3.25) ^F	(3.39) ^F	(3.14) ^F	3.14	3.00	61.67		
17	(3.00)	3.10	(2.96) ^F	A	A	(3.20) ^F	3.15 ^F	C ^F	C ^F	(2.33) ^F	3.07	(3.00) ^F	2.78	2.80	3.02	2.90	3.10	3.20	3.22	3.04	3.15	3.10	3.15	3.10	60.37		
18	3.08	3.00 ^F	3.00 ^F	3.26 ^F	(2.86) ^F	3.00 ^F	3.45 ^F	2.89 ^F	(3.40)	2.80	(2.88) ^F	(2.29) ^F	(2.60) ^F	(2.12) ^F	(2.69) ^F	2.82	(3.00) ^F	3.02	3.06	3.15	(3.12) ^F	3.05 ^F	A	3.05 ^F	67.59		
19	(3.40) ^F	A	(3.15) ^F	3.10 ^F	A	(3.02) ^F	C ^F	3.19	2.90	2.98 ^F	(2.50) ^F	3.19	2.52	2.85 ^F	A	2.80	2.80	2.93	3.21	3.30	3.11 ^F	(3.03) ^F	3.20 ^F	3.20 ^F	60.40		
20	3.10 ^F	(3.00) ^F	(2.95) ^F	3.02 ^F	(3.05) ^F	(3.15) ^F	3.50 ^F	(3.25) ^F	2.90 ^F	(2.81) ^F	3.03	2.90	(3.01) ^F	2.55 ^F	(2.62) ^F	A	3.00	3.00	3.17	3.15	3.21 ^F	A	3.21 ^F	A	63.58		
21	3.08 ^F	3.10 ^F	(3.10) ^F	A	(3.30) ^F	3.12 ^F	3.48 ^F	(3.25) ^F	2.95 ^F	3.29	3.21	3.20	2.69	2.90	3.16	3.18	2.92	2.95	3.00	3.16	3.17	3.25	(3.30) ^F	3.00 ^F	71.76		
22	3.11 ^F	3.15 ^F	3.02 ^F	3.15 ^F	2.90 ^F	3.12 ^F	3.26 ^F	C ^F	C ^F	3.40	3.30	2.99	2.92	3.05	3.09	(2.98) ^F	3.10	3.10	3.01	3.22	3.24	2.95	2.90	2.98	67.94		
23	3.20	3.01	3.15	3.10 ^F	3.19 ^F	2.84 ^F	3.04 ^F	G ^F	(2.21) ^F	(2.54) ^F	3.07 ^F	(2.50) ^F	G ^F	G ^F	(2.50) ^F	(2.40) ^F	(2.60) ^F	2.97 ^F	3.03	3.20	3.17	(3.02) ^F	3.10	(2.80) ^F	60.64		
24	(3.01) ^F	2.98 ^F	3.16 ^F	2.86 ^F	2.90 ^F	3.14	3.35 ^F	G ^F	2.49 ^F	3.07 ^F	2.43 ^F	G ^F	(2.37) ^F	A ^F	G ^F	(2.37) ^F	2.55 ^F	3.00	3.07	3.17 ^F	3.24 ^F	3.22 ^F	(3.10) ^F	A	55.48		
25	3.00	2.89 ^F	2.91 ^F	3.00 ^F	(3.00) ^F	(2.99) ^F	3.28	3.31	3.28	3.20	2.90	2.88 ^F	(2.30) ^F	3.04	3.10	2.75 ^F	3.02	3.17	3.24	3.20	3.37 ^F	(3.23) ^F	(3.18) ^F	(2.95) ^F	73.69		
26	(3.00) ^F	3.11 ^F	2.95 ^F	3.15 ^F	(3.10) ^F	3.18 ^F	3.30 ^F	3.21 ^F	3.44 ^F	3.30	3.36	2.98 ^F	2.99	2.92 ^F	3.10	3.02	3.10	3.24	3.10	3.20	3.15	3.15	3.11	3.21	737		
27	3.10	3.01 ^F	3.11 ^F	3.12 ^F	3.01 ^F	3.10 ^F	3.38 ^F	3.30 ^F	3.55 ^F	3.25	3.20	2.92	3.19	3.25 ^F	3.10 ^F	3.08 ^F	2.95 ^F	3.16	3.24	3.12	3.20	3.31	3.13	3.04	75.82		
28	3.12	3.00 ^F	2.95 ^F	2.90 ^F	(3.05) ^F	3.06 ^F	3.17 ^F	3.00 ^F	2.55 ^F	2.86 ^F	(2.74) ^F	2.55 ^F	2.81 ^F	3.11 ^F	2.91 ^F	2.98 ^F	3.14	3.04	3.05	3.00	3.02	3.00	2.98 ^F	-71.09			
29	3.09	3.19 ^F	3.05 ^F	3.08 ^F	2.88 ^F	2.90 ^F	3.20 ^F	3.10 ^F	(3.30) ^F	3.15 ^F	3.20	3.05	3.04	2.94 ^F	3.02	3.15 ^F	3.19	3.13	3.25	3.05	3.05	3.12	2.90	2.92	73.95		
30	3.11	3.24	3.00 ^F	A	(2.95) ^F	3.01	3.27	3.29	3.30	3.30	3.20	3.26	3.08 ^F	3.10	3.05 ^F	3.01	3.07	3.19	3.10	3.09	3.15	3.19	3.00	3.01	71.74		
31	3.01	3.01	2.86 ^F	2.90	3.00 ^F	3.00 ^F	3.30	3.28	3.30	3.33	3.40	2.86 ^F	2.95 ^F	C ^F	3.12	2.98 ^F	3.01	3.29	3.25	3.30	3.10	2.82 ^F	2.92 ^F	2.99	70.98		
Sum	89.44	85.61	85.49	76.04	78.53	87.41	93.05	67.57	75.78	75.92	67.84	63.23	72.10	61.85	69.88	79.03	76.06	84.10	85.94	88.68	84.04	83.55	79.15	188.44	7		
Mon ¹	3.08	3.06	3.05	3.04	3.02	3.12	3.32	3.07	3.03	3.04	2.95	2.87	2.77	2.81	2.91	2.86	2.93	3.04	3.11	3.18	3.17	3.11	3.09	3.04	3.04		
Tues ²	3.09	3.05	3.05	3.04	3.02	3.12	3.32	3.07	3.11	3.06	2.97	2.89	2.79	2.87	2.94	2.91	2.86	2.93	3.08	3.12	3.18	3.12	3.10	3.04	3.04		

¹For all days of the month²For quiet days

F2-M 3000

August, 1944

Washington, D.C.

Ionosphere Station

National Bureau of Standards
(Institution)TABLE 38
IONOSPHERE DATA-10

RESTRICTED

Hourly values of F2-M3500 for August 1944
(Month)Records measured by: S.M.O.
P.A.G.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	345 ^F	295 ^F	311	325	320	340	361	252	(265)	313	342	312	(300)	(290)	G	317	C	330	336	330	335	331	340	328	70.18	
2	305	335	305 ^F	324 ^F	330	345	(360)	(300)	340	304	A	301	291	282	302	C	C	C	C	C	C	C	C	C	44.24	
3	C	C	C	C	C	C	C	C	C	C	G	G	G	G	G	G	(270)	270	322	315	304	310	315	328	24.34	
4	315 ^K	330 ^K	C	C	C	C	370 ^K	G	291 ^K	G	C	C	C	G	C	270	290	302	304	345	330	322	316	335	44.00	
5	(330 ^K)	335 ^K	C	C	C	C	C	C	C	C	(258)	(300)	315	(295)	C	C	C	C	C	C	C	C	C	C	21.48	
6	340	320	340 ^F	325 ^F	300	340	360	C	C	C	290	C	(325)	C	(325)	305	332	315	320	325	330	340	325	320	61.77	
7	320	315	313	310	310	345	335	302	340	360	C	C	(280)	C	325	(310)	325	329	331	331	341	330	340	340	68.13	
8	335	340 ^F	330 ^F	312 ^F	312 ^F	340 ^F	340	(314)	335	(375)	(270)	300	(263)	(300)	305	310	325	A	314	337	(345)	320	316	A	70.46	
9	311	310	310	317 ^F	315 ^F	320	350	300	(330)	A	320	330	(312)	322	325	335	335	330	340	348	342	338	325	314	74.79	
10	340	330	320 ^F	310 ^F	323 ^F	341 ^F	338	A	(271)	325	(350)	C	259	(290)	318	(308)	329	330	347	347	330	310	320	330	70.66	
11	319	330	340 ^F	320 ^F	322 ^F	340 ^F	350	(325)	340	330	A	A	A	(322)	299	A	312	328	340	340	320	329	322	318	65.46	
12	333	315 ^F	340 ^F	330 ^F	350 ^F	330 ^F	335	320	(318)	266	(299)	G	(278)	G	A	300	306	320	316	330	348	345	343	344	40.1	
13	321	330	334 ^F	320 ^F	330 ^F	350 ^F	323	(318)	G	A	A	A	A	(240)	A	A	289	320	316	330	348	345	343	325	55.22	
14	316	328 ^F	330 ^F	330	340	350	352	360	338	335	G	(291)	283	G	(257)	298	(306)	325	A	340	345	347	343 ^F	321 ^F	68.37	
15	345 ^F	325 ^F	(330 ^F)	321 ^F	(311 ^F)	341 ^F	350	341	329	302	255	(286)	(311)	287	(294)	(288)	C	C	C	C	C	C	C	C	50.16	
16	C	C	350	(344 ^F)	335	345	360	321	(340)	(330)	A	298	312	321	(312)	(300)	(307)	C	(320)	(342)	(350)	(334)	330	320	65.51	
17	(319)	330	(319)	A	A	(340)	335	C	C	(252)	328	(320)	300	300	320	315	330	340	343	320	331	330	335	326	64.33	
18	320	315	320 ^F	345 ^F	(310 ^F)	324 ^F	320	310	(355)	301	(310)	(250)	(281)	(282)	(290)	310	(321)	320	321	328	326	325	A	322	72.46	
19	(340 ^F)	A	(331 ^F)	334 ^F	A	(331 ^F)	C	338	313	310	(270)	340	275	308	A	311	303	313	340	347	331 ^F	325 ^F	338 ^F	340 ^F	64.53	
20	339 ^F	(320 ^F)	(315 ^F)	320 ^F	(331 ^F)	(335 ^F)	375	(349)	313	(309)	322	312	(320)	275	(285)	A	316	320	332	335	342 ^F	A	340 ^F	A	68.25	
21	320 ^F	330 ^F	330 ^F	A	(350 ^F)	(331 ^F)	360	(340)	320	345	(340)	340	290	313	337	331	312	315	316	330	337	340	345 ^F	320 ^F	75.92	
22	334 ^F	340 ^F	324 ^F	325 ^F	310 ^F	329 ^F	338	C	C	350	348	316	313	323	325	312	325	327	320	340	342	315	310	311	71.77	
23	340	320	330	329 ^F	340 ^F	304 ^F	320	G	(248)	(278)	325	(271)	G	G	(274)	260	(283)	318	320	335	333	325	330	305 ^F	64.87	
24	(320 ^F)	319 ^F	333 ^F	308 ^F	305 ^F	335	353	G	258	327	262	G	(255)	A	G	(253)	272	320	321	340 ^F	338 ^F	340 ^F	322 ^F	A	58.83	
25	314	310	310	325 ^F	(313 ^F)	(320)	341	350	342	334	312	309	302	320	330	296	320	339	340	338	350	(340 ^F)	(331 ^F)	(320 ^F)	78.06	
26	(319 ^F)	329 ^F	318	330 ^F	(332 ^F)	335 ^F	346	344	361	342	350	312	319	310	323	322	323	342	328	332	329	334	330	340	79.50	
27	327	322 ^F	330 ^F	324 ^F	323 ^F	352	348	348	369	340	340	314	339	333	326	337	311	334	339	328	337	346	325	320	79.96	
28	330	318	310 ^F	315 ^F	330 ^F	(330 ^F)	320	329	321	275	310	(248)	278	308	329	311	312	330	320	325	320	318	318	315	75.70	
29	328	332 ^F	325 ^F	330 ^F	305 ^F	311 ^F	340	325	(345)	330	338	325	320	315	323	332	331	330	340	341	334	329	310	312	78.31	
30	321	313	325	A	(381)	319	341	345	342	347	335	343	329	324	325	319	323	314	325	329	334	334	314	320	76.12	
31	320	325	310	314	320 ^F	322 ^F	345	341	349	345	353	306	318	C	331	315	320	342	340	345	325	302	311	315	75.14	
Sum	9486	9061	9083	8098	8447	9296	9750	7172	8073	8025	7227	6774	7768	6665	7430	7665	8414	8079	8861	9355	9350	8887	8831	8404	2002.33	
Mean ¹	327	324	324	324	325	332	348	326	323	321	314	308	299	303	311	307	312	323	328	334	334	329	327	323		
Mean ²	327	323	324	324	325	332	347	326	331	323	316	310	300	303	314	313	317	327	327	334	335	330	328	322		

For all days of the month

2 For quiet days

F2-M 3500

August, 1944

Table 39

Ionospheric Storminess, August, 1944

Day	Ionospheric Character*		Principal Storms		Magnetic Character	
	00-12 GCT	12-24 GCT	Beginning GCT	End GCT	00-12 GCT	12-24 GCT
August						
1	3	3			2	2
2	2	3		///	2	3
3	***	5	-----/	-----	5	2
4	4	5	-----	-----	1	1
5	4	2	///		1	2
6	2	2			2	1
7	2	2			1	1
8	1	0			1	2
9	1	3			2	1
10	2	3			3	2
11	1	3			2	2
12	2	3			3	2
13	2	3			2	1
14	1	3			1	2
15	2	3			2	1
16	1	2			1	2
17	2	1			1	1
18	2	3			3	2
19	3	3			2	1
20	2	3			1	1
21	2	1			1	1
22	2	2			1	1
23	1	5	1130	2300	3	2
24	3	5	1130	2200	3	2
25	2	1			0	1
26	1	2			0	2
27	1	2			2	2
28	3	3			3	3
29	2	2			1	1
30	1	1			2	2
31	1	2			3	2

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of American magnetic K-figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No record.

--- Dashes indicate continuance of ionospheric storminess.

/// Exact time unknown because recorder not operating. Probably about 2200.

/// Exact time unknown because recorder not operating. Probably about 1000.

Table 40

Comparison of percentage of total time of Es-transmission
as observed by the Federal Communications Commission Engineering
Department with that derived from analysis of IRPL
vertical-incidence data at Washington, D.C.

Date	FCC Transmission Data for 44.3 Mc (WGTR, Paxton, Mass.) E ₀ for 1 mile = 2460 μ v/m Percentage of total time for Es trans- mission > 25 μ v/m as observed at			Corresponding percentage of total time for Es transmission as derived from IRPL vertical- incidence data observed at Washington, D.C.
	Allegan, Mich.	Grand Island, Neb.	Atlanta, Ga.	
Sept. 1943	0.003	-	0.003	0.026
Oct.	0	0.006	0.045	0.044
Nov.	0	-	0	0.026
Dec.	0.22	-	0.46	0.115
Jan. 1944	0	-	0.023	0.024
Feb.	0.003	-	0.06	0.037
Mar.	0	-	0	0.003
Apr.	0.006	-	0.23	0.05
May	0.17	1.2	3.0	0.94
June	1.7	2.5	5.8	2.0
July	2.9	4.0	12.0	5.7
Aug.	0.092	0.013	0.99	0.93

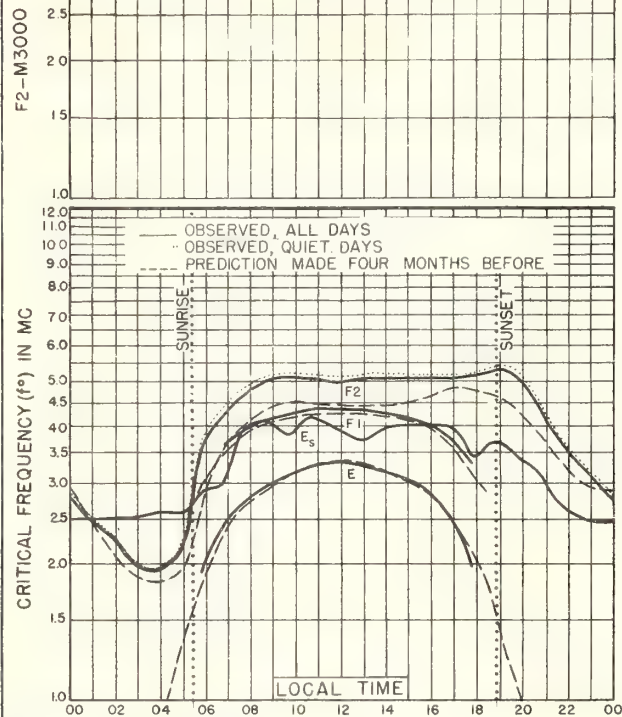


Fig. 1. WASHINGTON, D.C.
39.0°N, 77.5°W

AUGUST, 1944

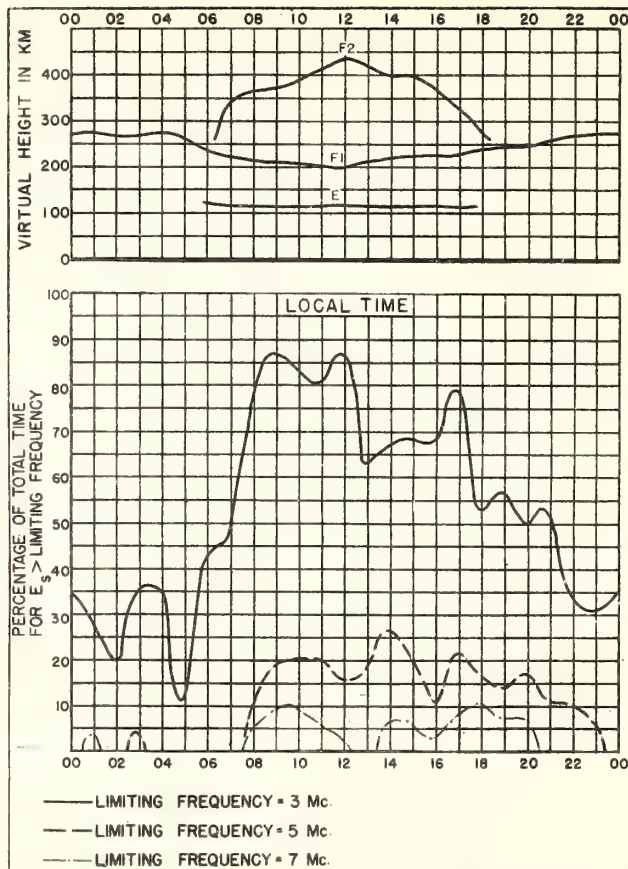


Fig. 2. WASHINGTON, D.C.

AUGUST, 1944

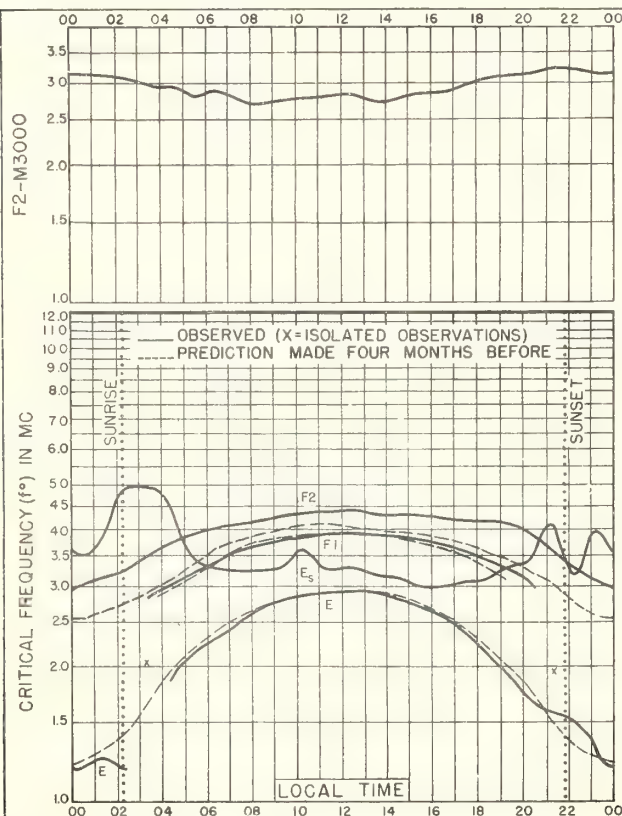


Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W

JULY, 1944

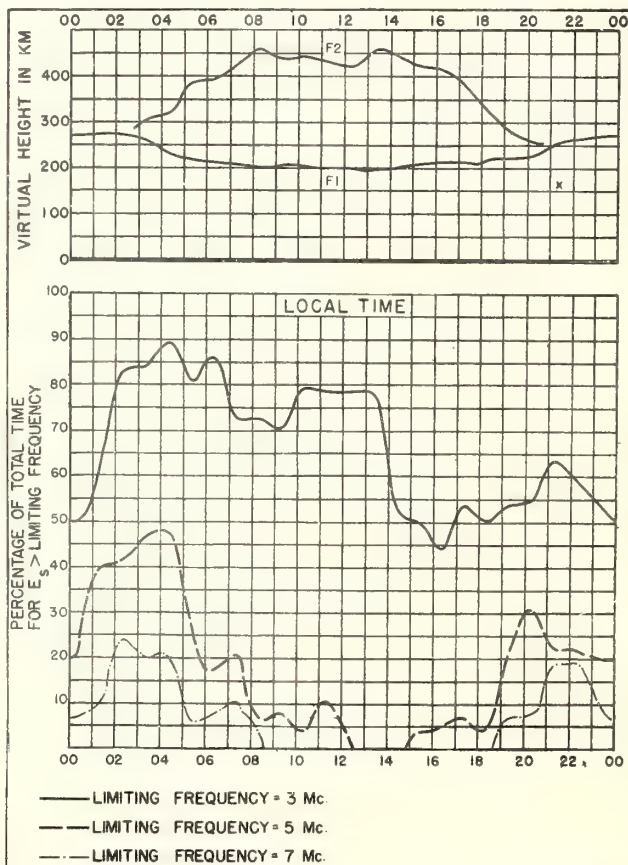


Fig. 4. FAIRBANKS, ALASKA

JULY, 1944

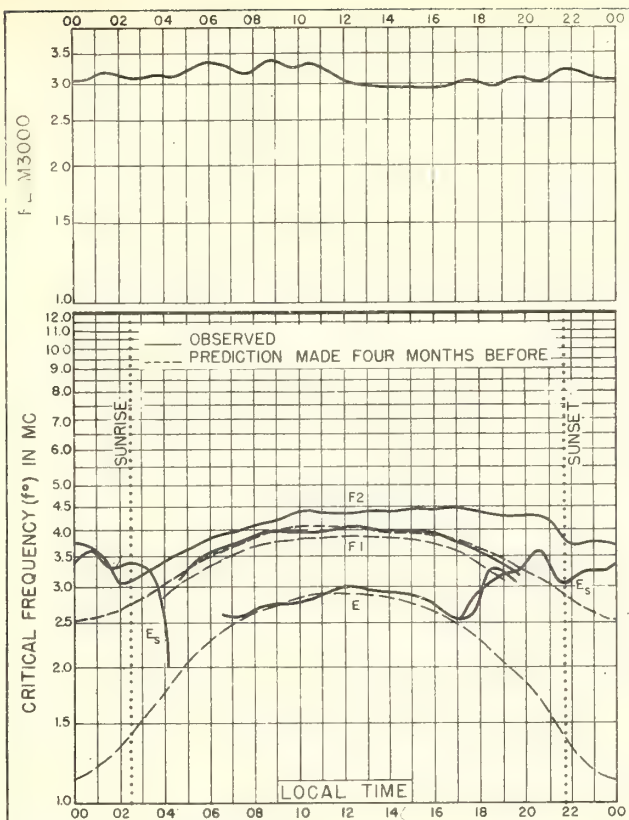


Fig. 5. REYKJAVIK, ICELAND
64.1°N, 21.7°W

JULY, 1944

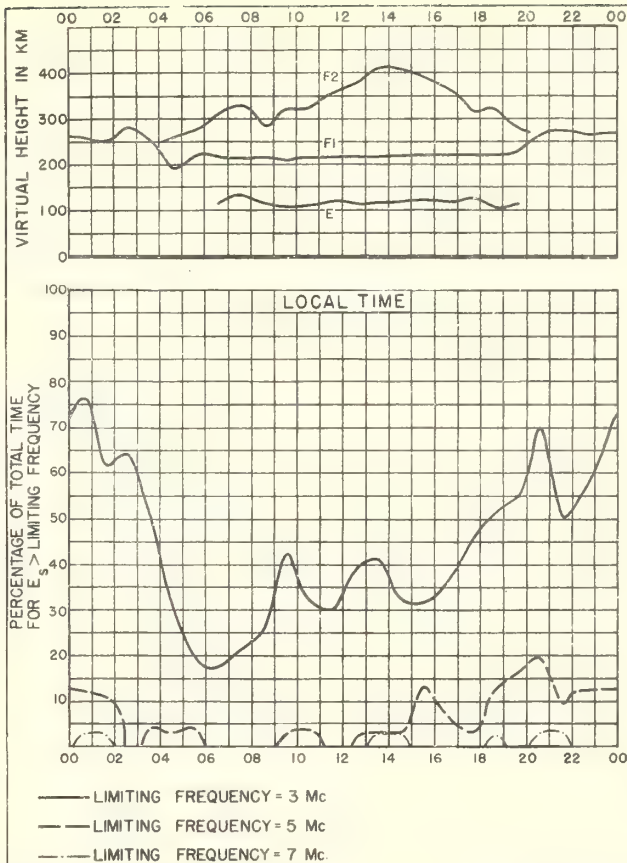


Fig. 6. REYKJAVIK, ICELAND

JULY, 1944

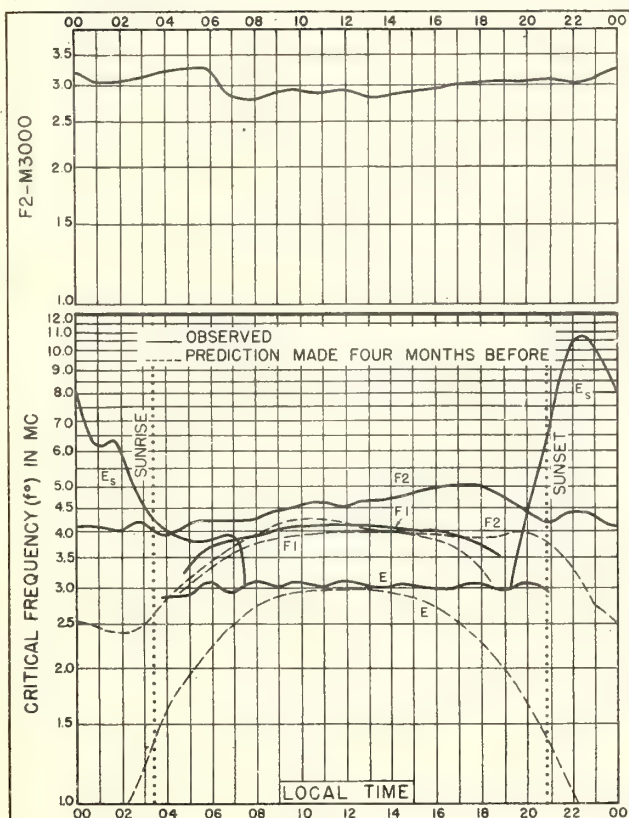


Fig. 7. CHURCHILL, CANADA
58.8°N, 94.2°W

JULY, 1944

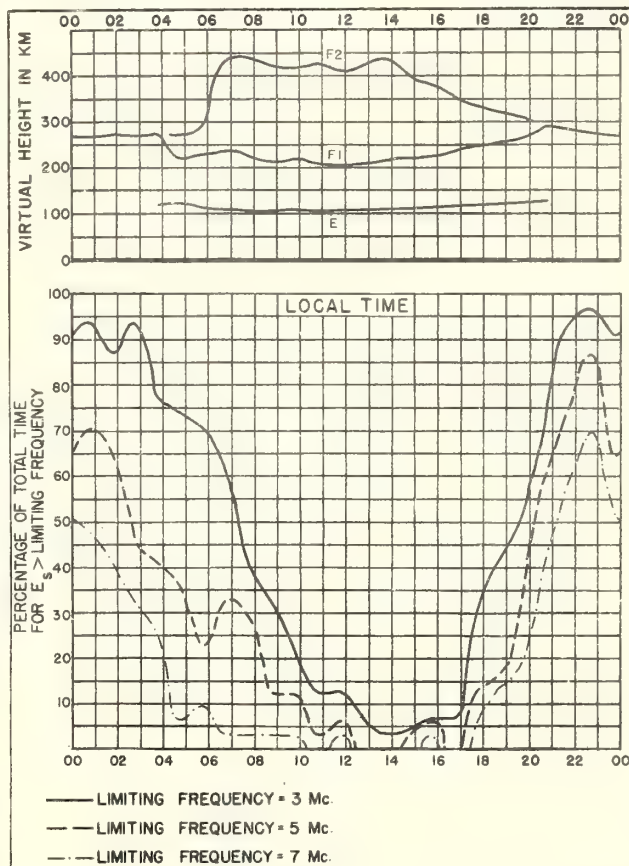


Fig. 8. CHURCHILL, CANADA

JULY, 1944

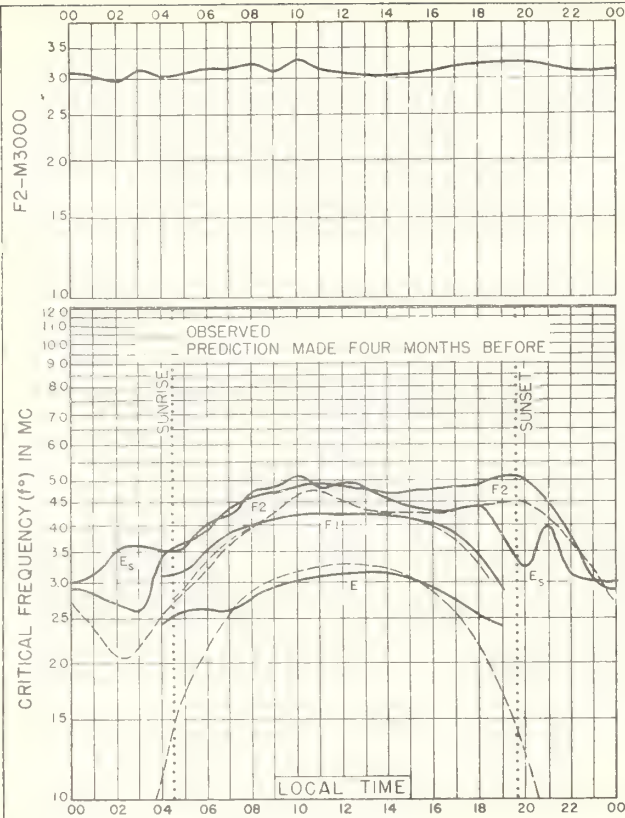


Fig.9. OTTAWA, CANADA
45.5°N, 75.8°W
JULY, 1944

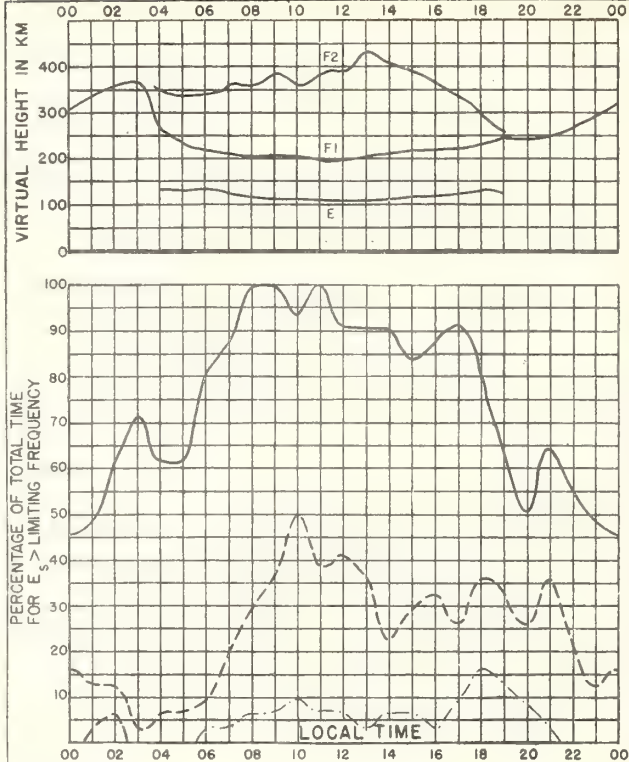


Fig.10. OTTAWA, CANADA
JULY, 1944

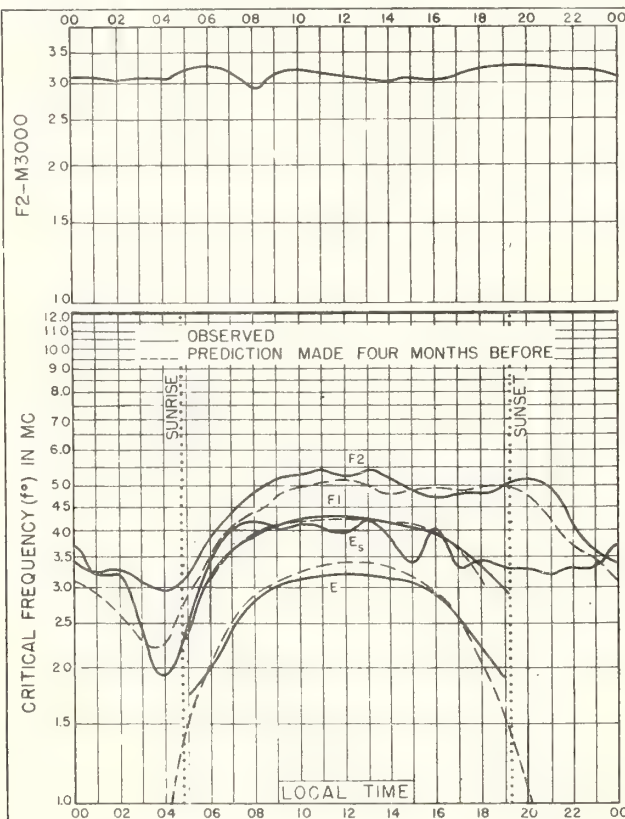


Fig.11. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W
JULY, 1944

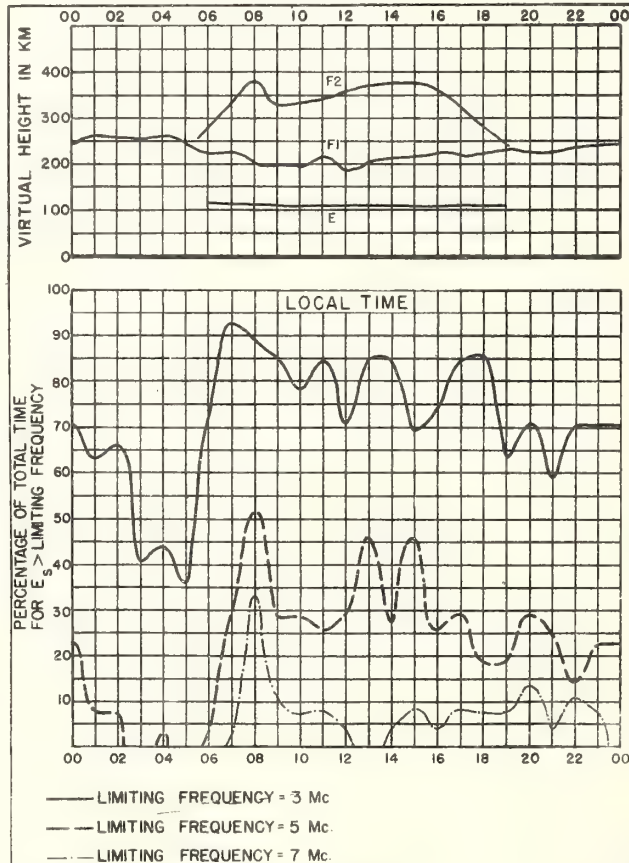
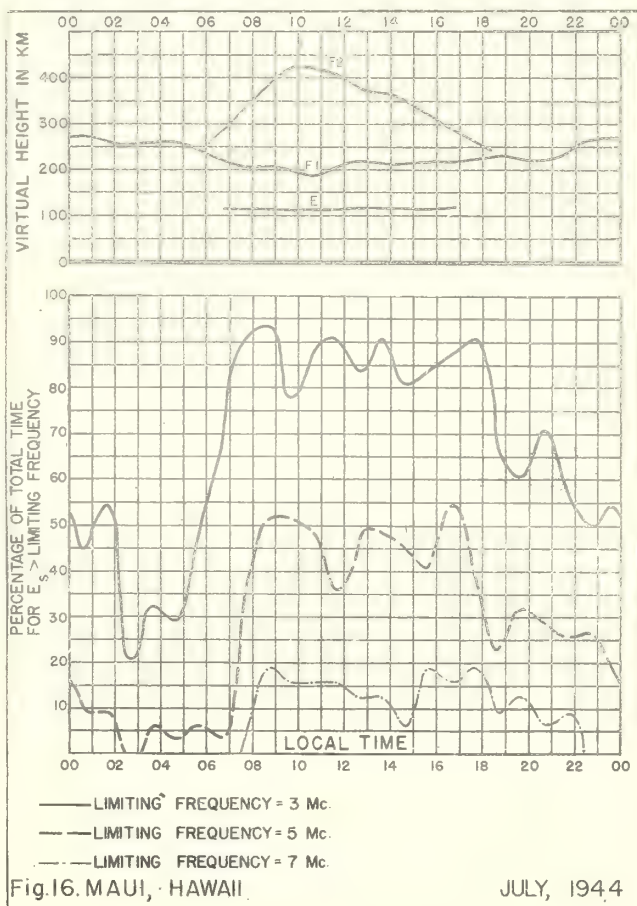
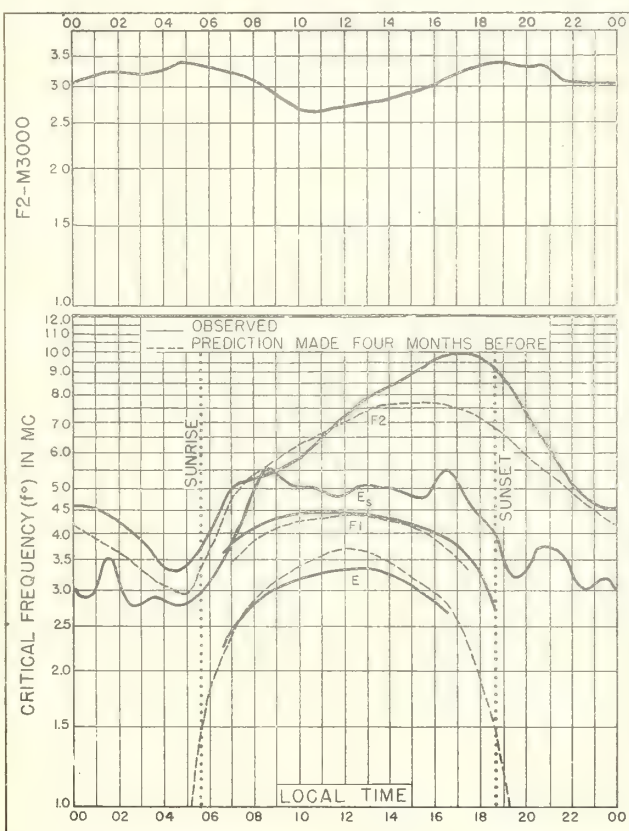
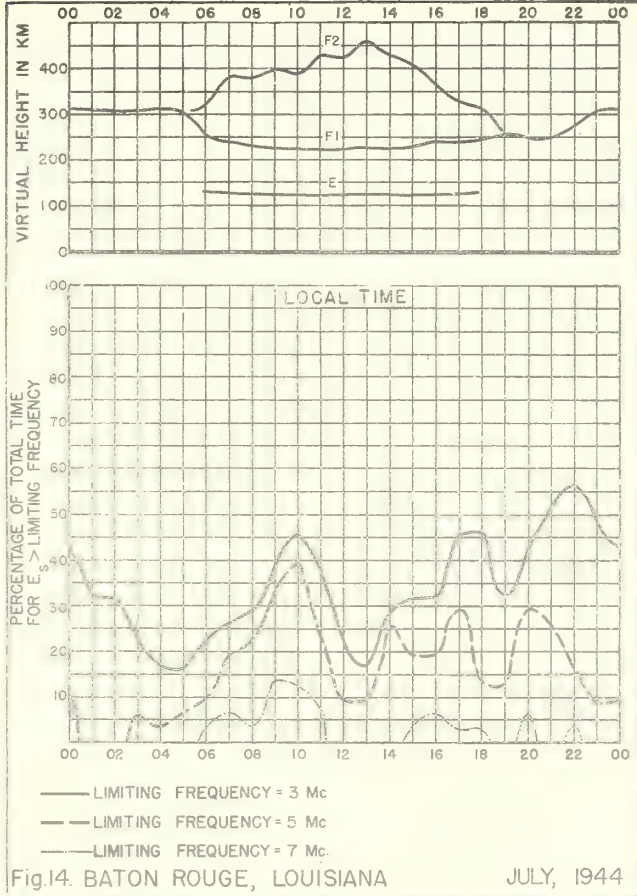
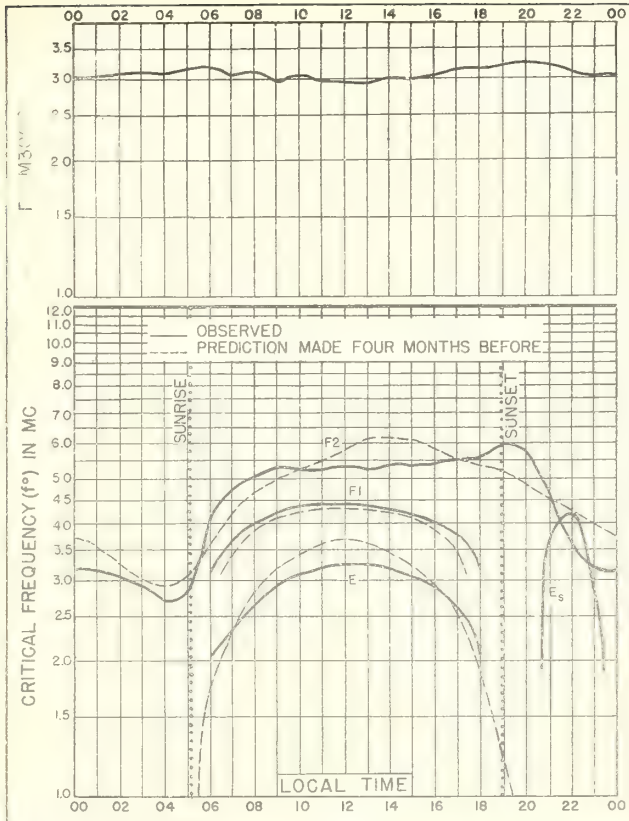


Fig.12. SAN FRANCISCO, CALIFORNIA
JULY, 1944



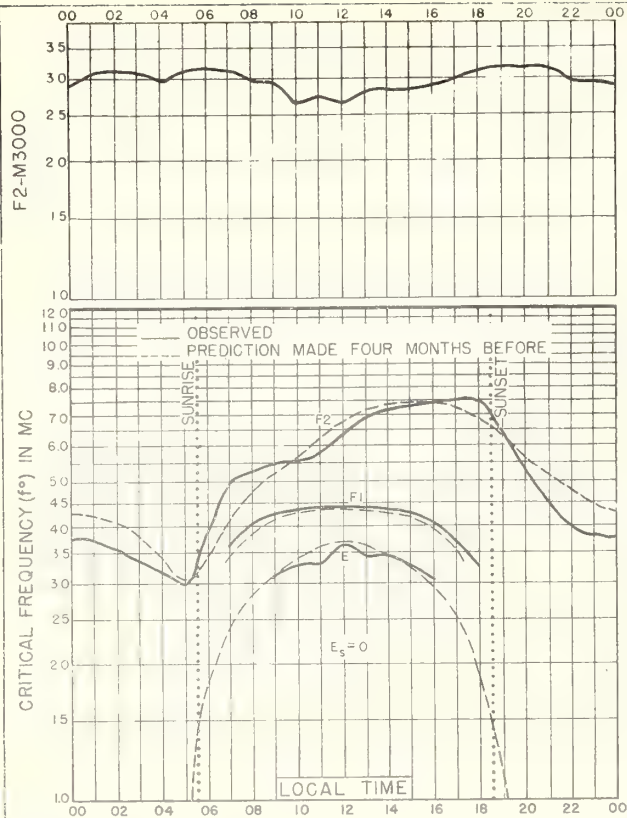


Fig.17. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W

JULY, 1944

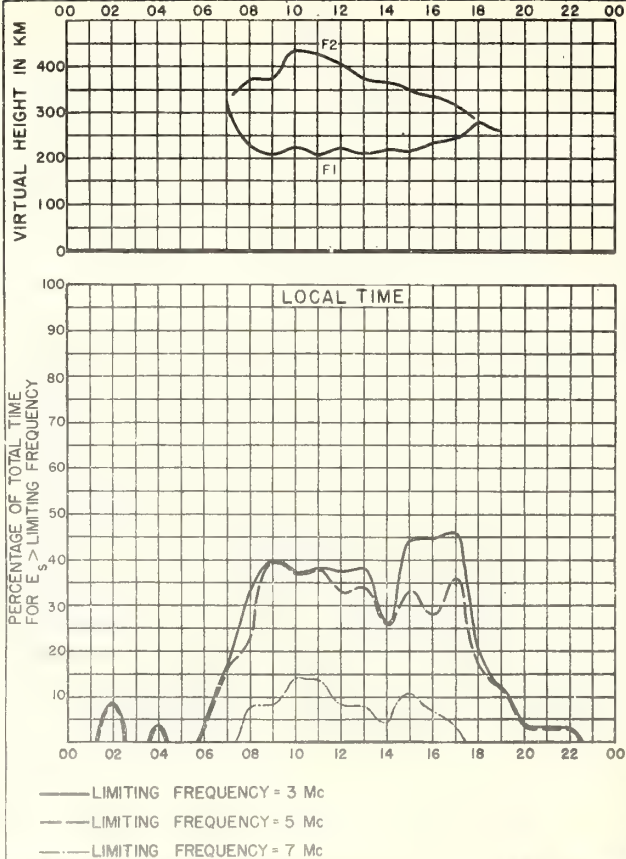


Fig.18 SAN JUAN, PUERTO RICO

JULY, 1944

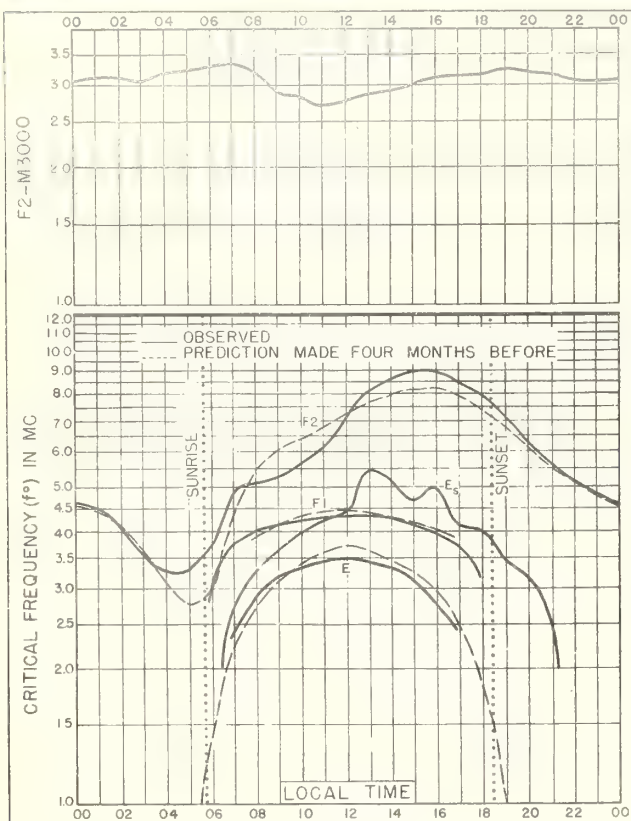


Fig.19. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.3°W

JULY, 1944

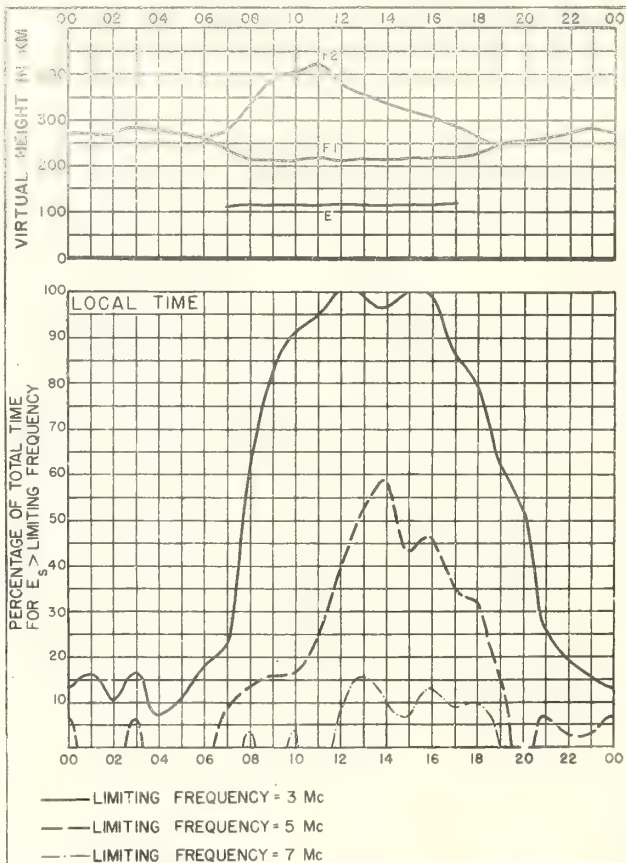


Fig.20. TRINIDAD, BRIT. WEST INDIES

JULY, 1944

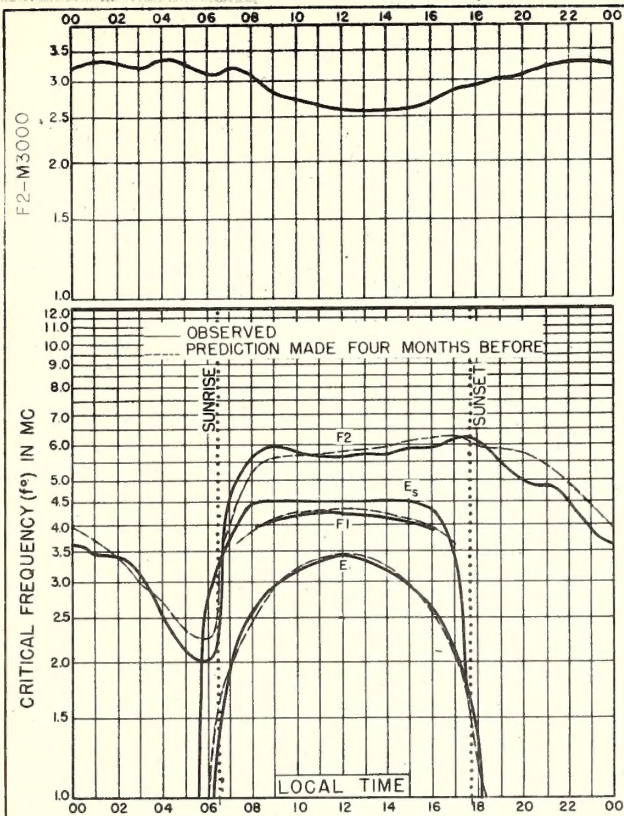
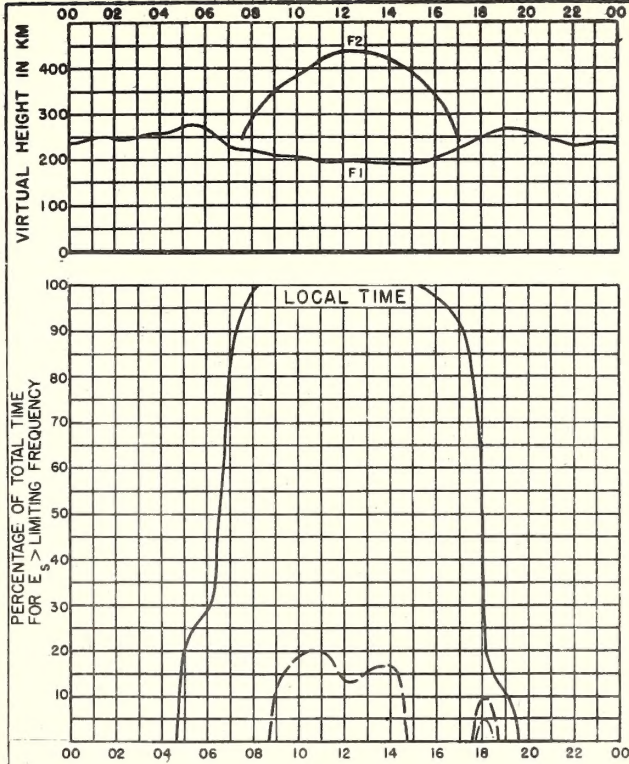


Fig 21. HUANCAYO, PERU
12.0°S, 75.3°W

JULY, 1944



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
... LIMITING FREQUENCY = 7 Mc.

Fig 22. HUANCAYO, PERU

JULY, 1944

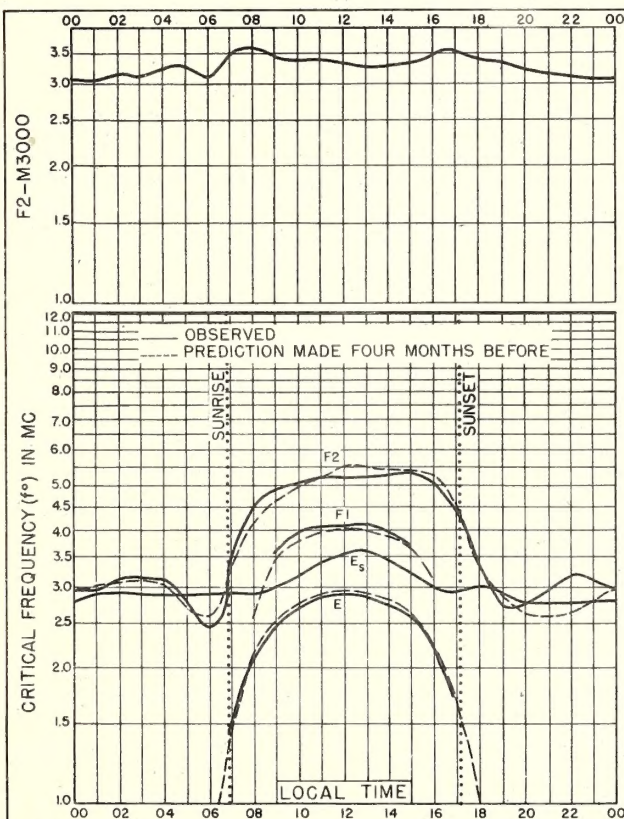
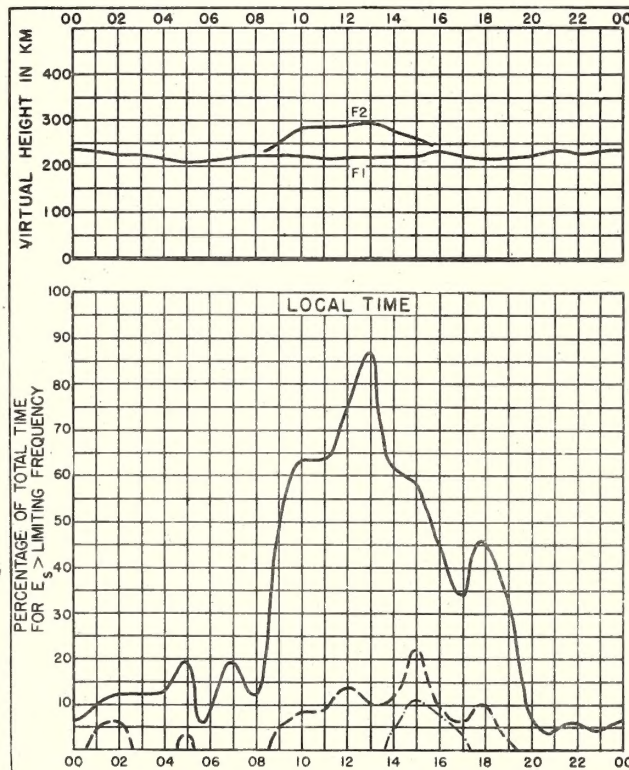


Fig 23. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E

JULY, 1944



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
... LIMITING FREQUENCY = 7 Mc.

Fig 24. WATHEROO, W. AUSTRALIA

JULY, 1944

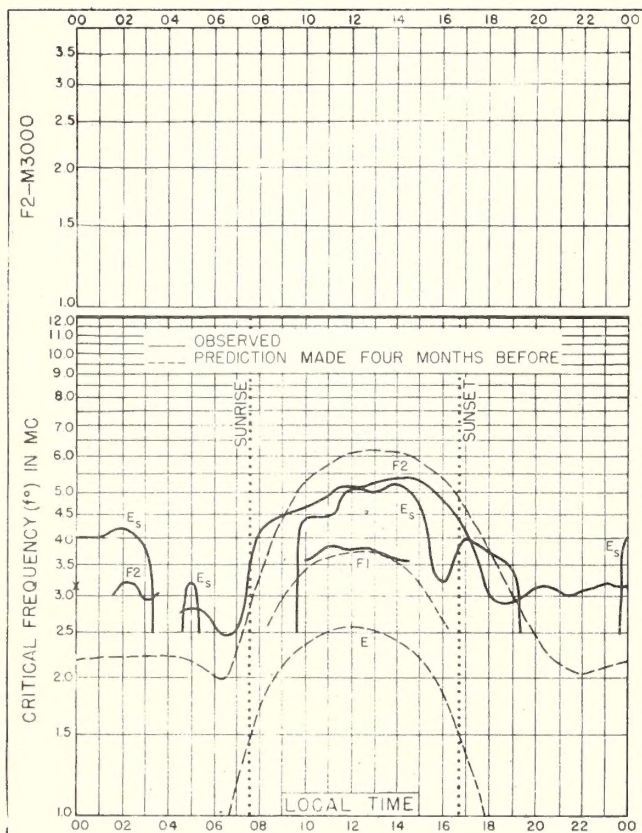


Fig 25. CHRISTCHURCH, NEW ZEALAND
43.5°S, 172.6°E

JULY, 1944

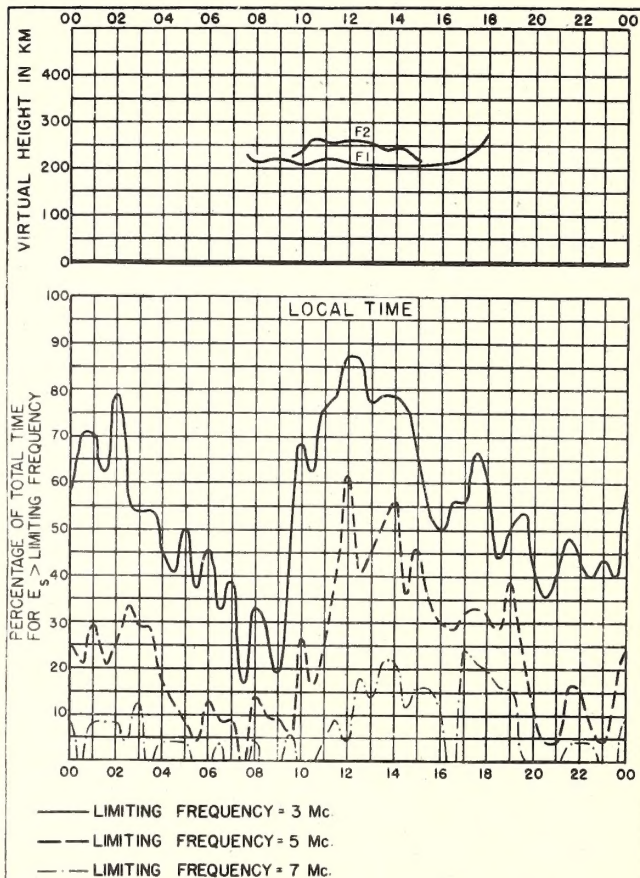


Fig 26. CHRISTCHURCH, NEW ZEALAND

JULY, 1944

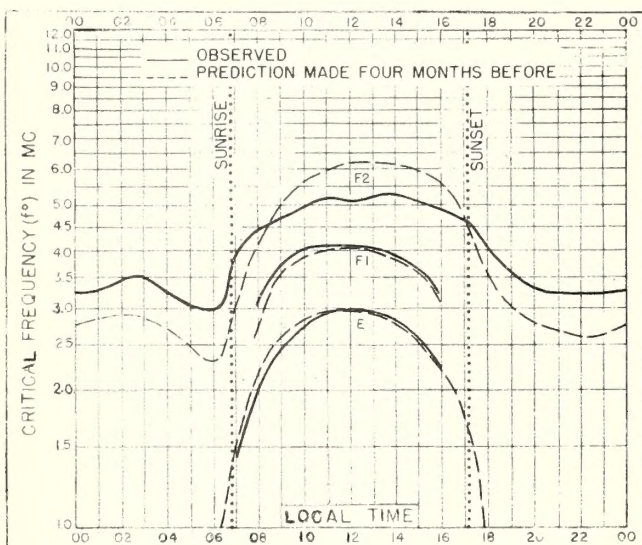


Fig 27 KERMADEC IS
29.2°S, 177.9°W

JULY, 1944

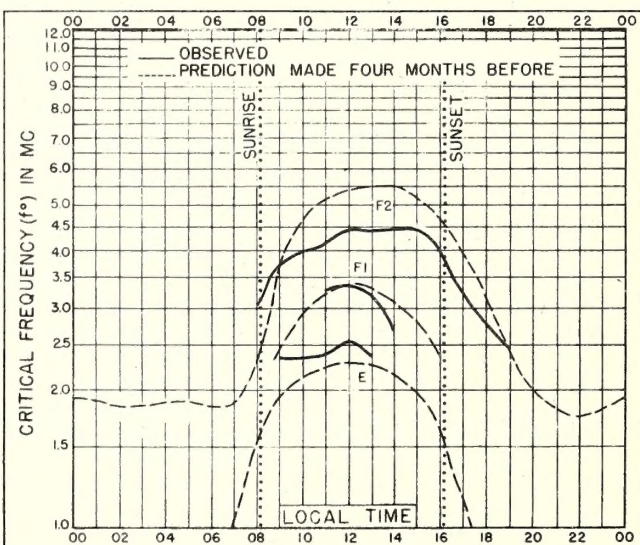


Fig 28. CAMPBELL IS.
52.0°S, 169.0°E

JULY, 1944

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Warnings of ionospheric disturbances.

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IRPL-M. (WIMS APPENDIX N) Frequency Guide for Merchant Ships.

Semi-annual

IRPL-H. Frequency Guide for Operating Personnel.

Special Reports, etc.

IRPL Radic Propagation Handbook, Part 1.

IRPL-C1 through C61. Reports and papers of the International Radio Propagation Conference, 17 April to 5 May, 1944.

IRPL-R. Unscheduled reports.

R1. Maximum Usable Frequency Graph Paper.

R2 and R3. Obsolete.

R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.

R5. Criteria for Ionospheric Storminess.

R6. Experimental studies of ionospheric propagation as applied to a navigation system.

IRPL-T. Reports on Tropospheric Propagation.

T1. Radar Operation and Weather.

T2a. Radar coverage and weather.

